

CALIFORNIA INSTITUTE OF TECHNOLOGY

EARTHQUAKE ENGINEERING RESEARCH LABORATORY

ANALYSES OF STRONG MOTION EARTHQUAKE ACCELEROGRAMS

VOLUME IV - FOURIER AMPLITUDE SPECTRA

PARTS V, W, AND Y - ACCELEROGRAMS IV294 TO IV333,
IW334 TO IW336, IW338, IW339, IW342 TO IW345,
AND IY370 TO IY381

REPORT NO. EERL 75-101

A REPORT ON RESEARCH CONDUCTED UNDER A
GRANT FROM THE NATIONAL SCIENCE FOUNDATION

PASADENA, CALIFORNIA

APRIL, 1975

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STRONG MOTION EARTHQUAKE ACCELEROGRAMS

Volume IV - Fourier Amplitude Spectra

Parts V, W and Y - Accelerograms IIV294 to IIV333,
IIW334 to IIW336, IIW338, IIW339, IIW342 to IIW345,
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ABSTRACT

This is the last of a series of reports presenting Fourier amplitude spectra for earthquake ground motions and for structural response accelerations. Volume IV, Part A, Report No. EERL 72-100, included an introduction summarizing Fourier spectrum techniques in earthquake engineering as a background to the use of the data. For each earthquake accelerogram, two spectrum plots are given - a Fourier amplitude spectrum versus frequency on a linear scale and a log-spectrum, log-frequency plot. In this Volume IV series, Fourier amplitude spectra have been given for all corrected accelerograms, including building response measurements. The corrected records analyzed in this report, Volume IV, Parts V, W and Y, appeared in Volume II, Part V, Report No. EERL 75-52, and Volume II, Parts W and Y, Report No. EERL 75-53. Their uncorrected versions were published in Volume I, Part V, Report No. EERL 73-27; Volume I, Part W, Report No. EERL 73-28; and Volume I, Part Y, Report No. EERL 73-30.

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PREFACE TO VOLUME IV, PARTS V, W, AND Y

This report, Volume IV, Parts V, W, and Y,* Report No. EERL 75-101, is the final part of a series initiated in July, 1969, and completes the objective of making available in a standard format Fourier amplitude spectrum calculations for all important strong-motion earthquake records collected since the initiation of the U.S. network in 1932 through 1971.

These Fourier spectrum calculations have been based on the corrected accelerograms reported in the Volume II series and therefore represent the best combination of accuracy and frequency range which it is feasible to achieve with the currently available instrumentation and data-processing techniques. As future investigations improve these data processing techniques, and as more refined instruments make it possible to attain higher levels of accuracy and wider frequency ranges, such calculations can no doubt be extended to include these improvements.

This issue contains data from California stations which recorded strong ground motion during the years 1933 to 1967; during the Lytle Creek earthquake, September 12, 1970; and the Borrego Mountain earthquake, April 8, 1968.

The records of Part V are included here in chronological order and the following series of records are of particular interest.

*For reasons of economy and convenience in the size of the reports, it has been thought desirable to combine three parts into one report.

The Los Angeles Subway Terminal, sub-basement, and the Long Beach Public Utilities Building records complete the set of three records obtained from the Long Beach earthquake of March 10, 1933, and were considered suitable for inclusion in this digitization project. The third is from the Vernon, CMD Building included in Part B, Series reference number B021.

The Hollywood Storage Building penthouse record from the Taft, 1952, earthquake is included to accompany the basement and P.E. lot records appearing in Part A, Series reference numbers A006 and A007.

Nine records are included from a foreshock and two aftershocks of the March 22, 1957, San Francisco earthquake. The aftershock at 1515 PST produced records at the Alexander Building (3 records), Oakland City Hall (2 records) and the Southern Pacific Building (one record, in the basement).

Other records in this issue include the Long Beach Public Utilities Building and the Los Angeles Chamber of Commerce Building (November 14, 1941), San Luis Obispo (November 21, 1952), the Port Hueneme Navy Research and Evaluation Laboratory (March 18, 1957), Eureka (September 4, 1962), Castaic (July 15, 1965), the Pacific Telephone Building in Sacramento (September 12, 1966), and the 12th floor of the Bethlehem Building in San Francisco (December 18, 1967).

Some of the records of Part W included in the Volume I series of uncorrected data have been eliminated from the processing of Volumes II, III, and IV. This decision, applying to very low

amplitude accelerograms, reflects the expectation that the resulting displacement records would be dominated by noise. The eliminated records are:

W337, W340, W341, W346 to W354.

The remaining records of Part W, from the Lytle Creek earthquake, are from the following locations:

1. 6074 Park Drive, Wrightwood
2. Cedar Springs CWR site; Allen Ranch and the right abutment
3. Hall of Records, San Bernardino
4. Southern California Edison Co., Colton
5. Millikan Library, Caltech, Pasadena (2 records)

The records of Part X, also from the Lytle Creek earthquake, have all been eliminated.

The records of Part Y from the Borrego Mountain earthquake, none having been deleted from the Volume I list, are from the following locations:

1. Southern California Edison Co., Colton
2. Orange County Engineering Building, Santa Ana
3. Southern California Edison Co., Terminal Island, Long Beach
4. JPL, Caltech, Pasadena (2 records)
5. Millikan Library, Caltech, Pasadena
6. Athenaeum, Caltech, Pasadena
7. Southern California Edison Co., 601 W. 5th St., Los Angeles
8. Subway Terminal, Los Angeles
9. Hollywood Storage Building, Los Angeles (2 records)

Three other records from the Borrego Mountain earthquake were included in the earlier reports of the Volume II series. These were closer to the epicenter of any of the above.

10. El Centro, in Part A, reference number A019
11. San Diego Light & Power Building, in Part A, reference number A020
12. San Onofre Nuclear Generating Station (Southern California Edison Co.), in Part B, reference number B040.

The uncorrected versions of the accelerograms in this issue appeared in Volume I, Parts V, W and Y, Report Nos. EERL 73-27, 73-28, and 73-30, and the plotted corrected accelerations, velocities, and displacements were included in Volume II, Part V, Report No. EERL 75-52, and Parts W and Y, Report No. EERL 75-53. These Volume II corrections included a standard long period cut-off of approximately 15 seconds.

A separate section included in Volume IV, Parts Q, R, and S, Report No. EERL 74-104, entitled "High Frequency Amplitude Errors in Digitized Strong Motion Accelerograms" describes the results of a recent investigation of high frequency noise generated by the digitizing process. Frequencies from several to 25 Hz have been studied, and figures have been included to indicate clearly the extent to which Fourier amplitudes have been affected within this range.

NOTES ON THE VOLUME IV SERIES

Description of the Four Volumes of the Project. The series of reports in Volume I present "uncorrected" digitized and plotted strong-motion earthquake accelerograph data, while the series in Volume II present corrected digitized data prepared so that the maximum information over the widest practicable frequency range would be available. The corrections include long period filtering ensuring to the greatest extent possible a uniform type of baseline adjustment and an instrument correction to account for the high frequency response characteristics of the accelerograph transducer.

The Volume III series presents earthquake response spectrum curves calculated from the corrected accelerograms of Volume II, while the Volume IV series contains Fourier amplitude spectra calculated by the Fast Fourier Transform algorithm. An extensive introduction was prepared for Volume IV, Part A, Report No. EERL 72-100, where details of the methods used can be found together with examples of applications to various problems of earthquake engineering and strong-motion seismology. That introduction should also serve as a basic summary of background information for users of the data.

Contents of the Various Parts. The specific records whose "uncorrected" digitized versions appeared in Part A of Volume I are included subsequently with their analyses in Part A of Volume II, III, and IV. This arrangement has been maintained throughout the whole series. In Part C of Volume IV, Report No. EERL 73-101, we began the presentation of Fourier spectra analysis for the

unusually important series of accelerograms obtained during the San Fernando earthquake of February 9, 1971, and Part S contains the last of the San Fernando records. In Part T a return is made to those records received during the years 1933 to 1968, which continue into Parts U and V. Parts W and X contain the records from the Lytle Creek, California, earthquake of Sept. 12, 1970, and Part Y contains the records of the Borrego Mountain, California, earthquake of April 8, 1968, not already included in Parts A and B. Part Y marks the conclusion of the current digitizing and analysis project.

Component Directions. A description of the component direction nomenclature for the records was given in Volume II, Part B, Report No. EERL 72-50. Consistent with this, the component direction where it appears in this report refers to the direction of the transducer pendulum motion for the trace to be deflected "up" on the record when viewed in the normal way with time increasing from left to right. The direction of true ground acceleration is opposite to this pendulum motion. The spectral calculations of Volume IV, however, are concerned with the amplitude spectrum only and the particular component sense is thus immaterial.

Assessment of Long Period Errors.

A. San Fernando earthquake data, 70-mm and 35-mm film,
included in Parts C through S

A separate section in Volume II, Part G, Report No. EERL 73-52, entitled "Current Assessment of Long Period Errors" describes the results of a recent investigation of long period displacements calculated from recorded accelerations. During the course of this

study it became evident that the procedures for preparation of 70-mm film and, to a lesser extent, 35-mm film records from the San Fernando earthquake of February 9, 1971, introduced spurious excitations at periods close to the duration of the sectional enlargements. These effects have been removed from all of the 70-mm and 35-mm film records by filtering with a long period limit of 8 seconds rather than the standard cut-off period of 16 seconds in the Volume II correction procedure. The following list of Caltech reference numbers indicates the records from the San Fernando earthquake included in Volume I, Parts C through S, that have been processed with the cut-off period of 8 seconds:

Parts G, H, I: All records in these parts.

Part J: Records J142 and J145 through J150.

Part K: All records.

Part L: Records L166, L167, L168; L172 through L175.

Part M: Records M176, M177, M178; M180 through M184.

Part N: All records.

Part O: Records O198 through O201; O206, O208, O210.

Part P: Records P231 and P232.

Parts Q, R, S: All records in these parts.

A decision was also made at the same time to eliminate a number of very low amplitude accelerograms from further processing (Volume II, III, and IV) reflecting the expectation that the resulting displacement records will be dominated by noise. Their Caltech reference numbers are as follows:

H127; I140; J151, J152; K153 through K156, K161 through K165; O202, O203, O209, O211, O212; P224 through P230.

B. Six inch and twelve inch photographic paper records, included in Parts A through Y.

The decision to eliminate the very low amplitude accelerograms of the San Fernando earthquake, detailed above in Section A, was extended to include the more distant records of the Lytle Creek earthquake, Sep. 12, 1970, whose uncorrected data appeared in Volume I, Parts W and X. The entire Part X has been eliminated from further processing. Although this somewhat drastic action was required in this case, nevertheless it is apparent in some of the displacement plots that have reached the Volume II series of reports that some long period noise is still present in the published data. There are no components remaining with periods longer than the cut-off period of 14 seconds (and roll-off termination at 20 seconds), or in the case of 70- and 35-mm film records from the San Fernando earthquake, the cut-off of 8 seconds (and roll-off termination at 10 seconds), but it is evident that for some records these cut-off periods are in fact too long. The cause for this lies in the very low amplitude of acceleration for much of the duration of some of the records and the consequent lowering of the signal-to-noise ratio. This noise arises primarily from random digitization noise, and is independent of the acceleration amplitudes. With this in mind, the displacement plots indicate that a cut-off period lower than 14 seconds, or 8 seconds as the case may be, should be used to remove these components

from the acceleration data. It is clear, of course, that in routine processing of accelerograms, such as those mentioned above, it is not practical to examine each earthquake accelerogram in sufficient detail to permit selection of the cut-off period optimal for that particular record.

Description of the Figures and Tables. For each component in the following pages the Fourier amplitude spectrum is presented in two forms - a linear plot and a log-log plot. Details concerning identification are given at the top of each plot. The second line gives the name, date, and time of occurrence of the earthquake; the third line is comprised of two labels, the observation station and the component processed. The Roman numeral "IV" in the first identification label indicates that the results pertain to the fourth stage of data processing, i. e., Volume IV of Fourier spectra of accelerogram records already corrected for baseline adjustment and instrument response. The letter following the Roman numerals indicates the part of Volume II to which the processed record belongs. The three-digit number completing the first label is the Caltech Reference Number for the given earthquake record in Volume I, right-adjusted in a three-digit numerical field. The second label is a string of three numbers separated by periods; the first number gives the year in which the earthquake occurred; the second is the serial number of the record as it was received at the Caltech Earthquake Engineering Research Laboratory during that year; and the last number indicates whether it was a main event or an aftershock (sequentially numbered, the main event starting from zero). On the linear spectrum plot, the data lying

above the 95 percent confidence level may be considered relevant to that degree. The spectra have been plotted up to a frequency of 25 cyc/sec on linear and logarithmic scales, corresponding to the capabilities of the instrumentation and data processing methods used.

Frequency Transfer Functions. This report presents many spectra of accelerograms recorded simultaneously at different locations in the same structure, for example, the basement, mid-height, and roof levels of a tall building. At present, it is planned to calculate frequency transfer functions involving smoothing and calculating the ratio of two such spectra in supplementary reports.

Numbering of EERL Reports. The system for the EERL-numbering of the reports is based on two numbers, one indicating the year of preparation, and the second indicating the volume to which the report belongs. A detailed description follows.

For the Volume I reports, the first number indicates the year in which the particular data was first prepared for either a report or for loading onto magnetic tape. This number ranges from 70 to 73. The first printing of Volume I, Part A, appeared before the numbering system was chosen. Although it was dated July, 1969, it actually did not appear until 1970, and was consequently numbered EERL 70-20 in subsequent printings. For the reports of Volumes II, III, and IV, the first number indicates the year in which the report was prepared, and ranges from 70 to 75.

The second number increases consecutively with each report, restarting at 20 each year in the case of Volume I reports, at 50 for Volume II, and 80 for Volume III, and at 100 for Volume IV. For

example, Volume II, Part G, Report No. EERL 73-52, was prepared in 1973 and was the third report of the Volume II series to be published that year. The numbers from 01 to 19 each year are reserved for other publications of the Earthquake Engineering Research Laboratory, such as thesis reports and special reports.

Acknowledgments. Any long-continued project requiring much detailed work must depend upon the devoted efforts of many people. We have been unusually fortunate in the quality and energy of the staff that has carried out these tasks with special care and attention. The particular individuals who have made these special contributions have been listed in the acknowledgments appended to the various reports in the series and we should like to add here a final word of appreciation to everyone involved.

The entire project was made possible by the continuing support of the National Science Foundation, with important supplements from the Earthquake Research Affiliates Program of the California Institute of Technology.

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A. G. Brady
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California Institute of Technology

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EARTHQUAKE DATA, PART V

<u>Location</u>	<u>Date</u>	<u>Time</u>	<u>Lat. (N)</u>	<u>Long. (E)</u>	<u>Depth*</u> <u>(km)</u>	<u>Mag.</u>	<u>Maximum</u> <u>Intensity</u>
Long Beach, Calif.	03/10/33	1754 PST	33°37'00"	-117°58'00"	16.0	6.3	9
Torrance-Gardena, Calif.	11/14/41	0042 PST	33°47'00"	-118°15'00"	16.0	5.4	8
Kern County, Calif.	07/21/52	0453 PDT	35°00'00"	-119°01'00"	16.0	7.7	11
Southern Calif.	11/21/52	2346 PST	35°50'00"	-121°10'00"	-	6.0	7
San Francisco, Calif.	03/22/57	1048 PST	37°40'00"	-122°28'00"	-	3.8	5
Foreshock							
San Francisco, Calif.	03/22/57	1144 PST	37°40'00"	-122°29'00"	-	5.3	7
San Fran., Calif. Aftershock	03/22/57	1515 PST	37°39'00"	-122°27'00"	-	4.4	5
San Fran., Calif. Aftershock	03/22/57	1627 PST	37°39'00"	-122°29'00"	-	4.0	5
Southern Calif.	03/18/57	1056 PST	34°07'06"	-119°13'12"	13.8	4.7	6
Northern Calif.	09/04/62	0917 PST	40°58'00"	-124°12'00"	-	5.0	6
Southern Calif.	07/15/65	2346 PST	34°29'06"	-118°31'18"	15.1	4.0	6
Northern Calif.,	09/12/66	0841 PST	39°24'00"	-120°06'00"	-	6.3	7
Northern Calif.	12/18/67	0925 PST	37°00'36"	-121°47'18"	-	5.2	6

* Listed depth of 16.0 km is an estimate used for travel times in epicenter calculations (Gutenberg, 1951; Hileman et al., 1973).

Earthquake Data, Part W

Location: Lytle Creek, California
Date: September 12, 1970
Time: 0630 PST
Epicenter: $34^{\circ}16'12''\text{N}$, $117^{\circ}32'24''\text{W}$
Depth: 8.0 km
Magnitude: 5.4
Maximum Intensity: VII

Earthquake Data, Part Y

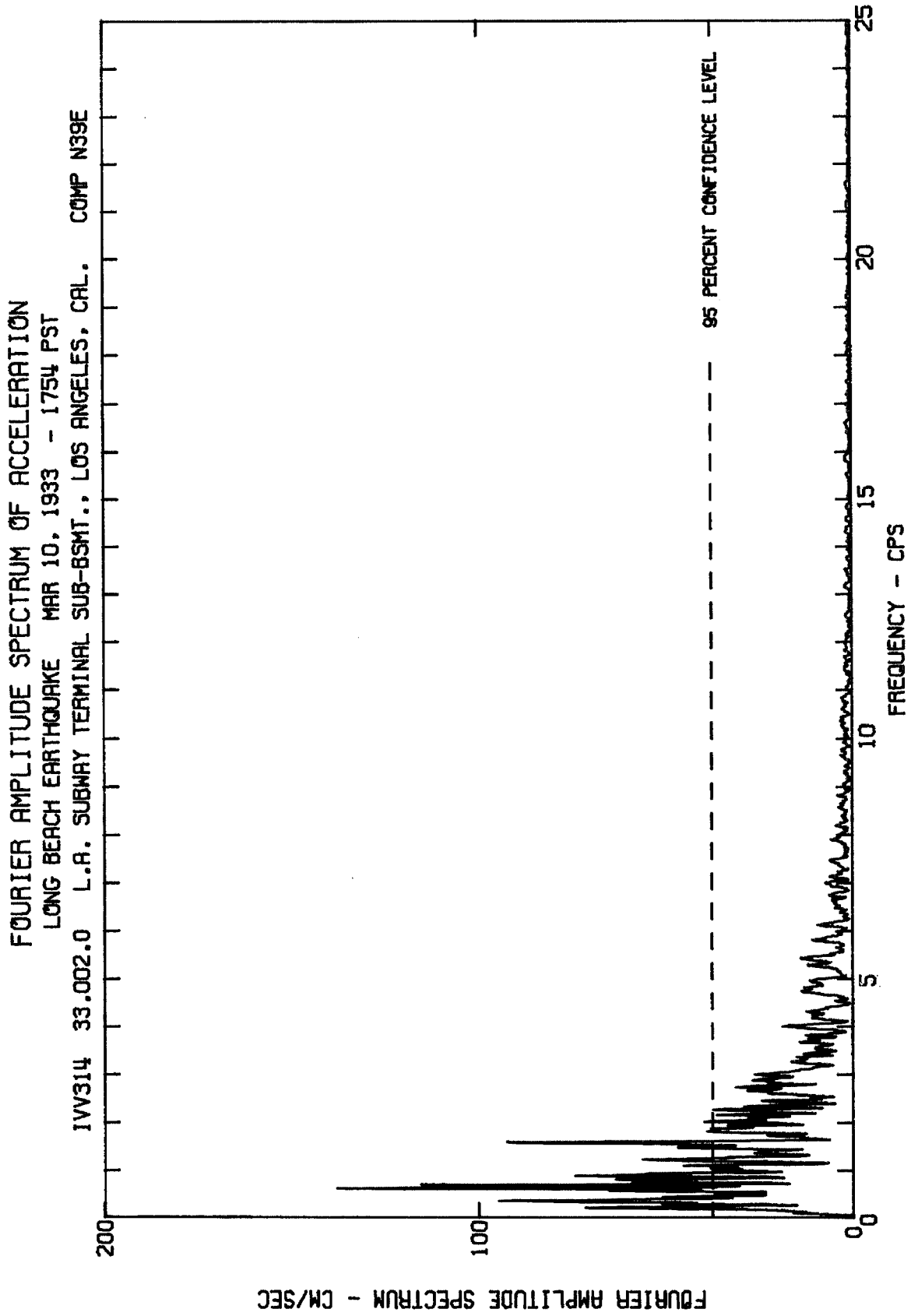
Location: Borrego Mountain, California
Date: Spril 8, 1968
Time: 1830 PST
Epicenter: $33^{\circ}11'24''\text{N}$, $116^{\circ}07'42''\text{W}$
Depth: 11.1 km
Magnitude: 6.4
Maximum Intensity: VII

REFERENCES (See additional list, page 268)

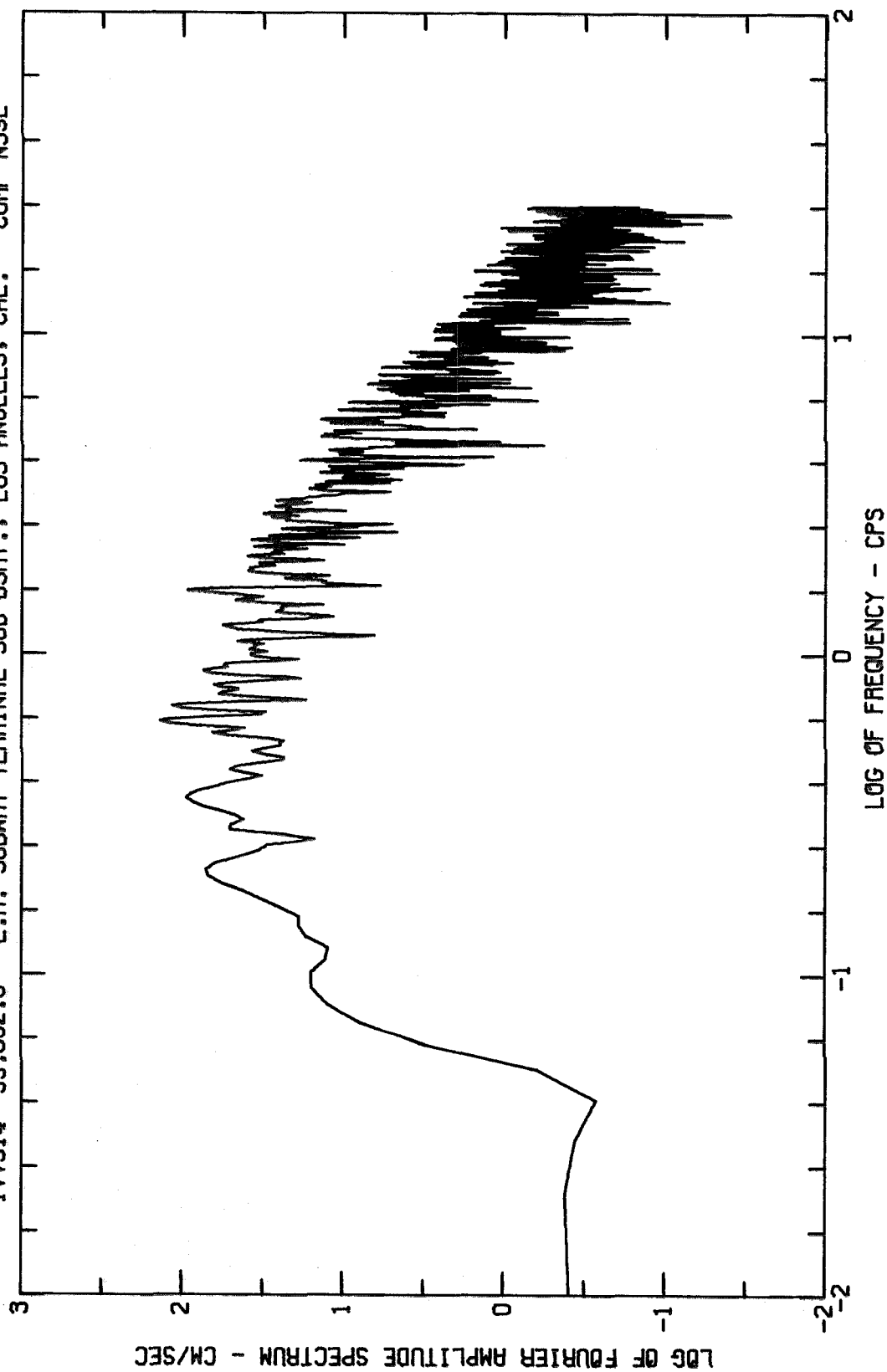
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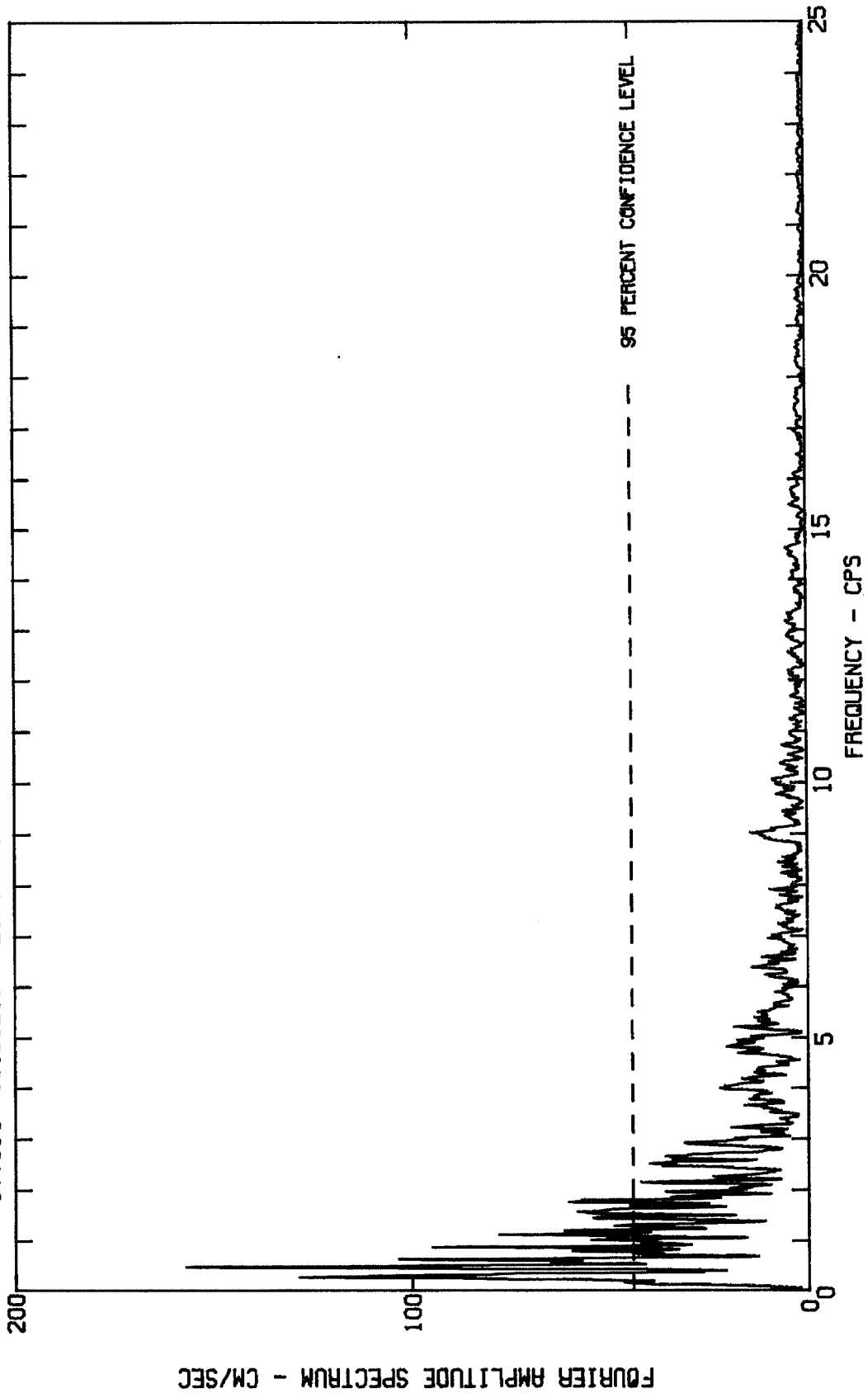
IVV314 33.002.0 L.A. SUBWAY TERMINAL SUB-BST., LOS ANGELES, CAL. COMP N39E
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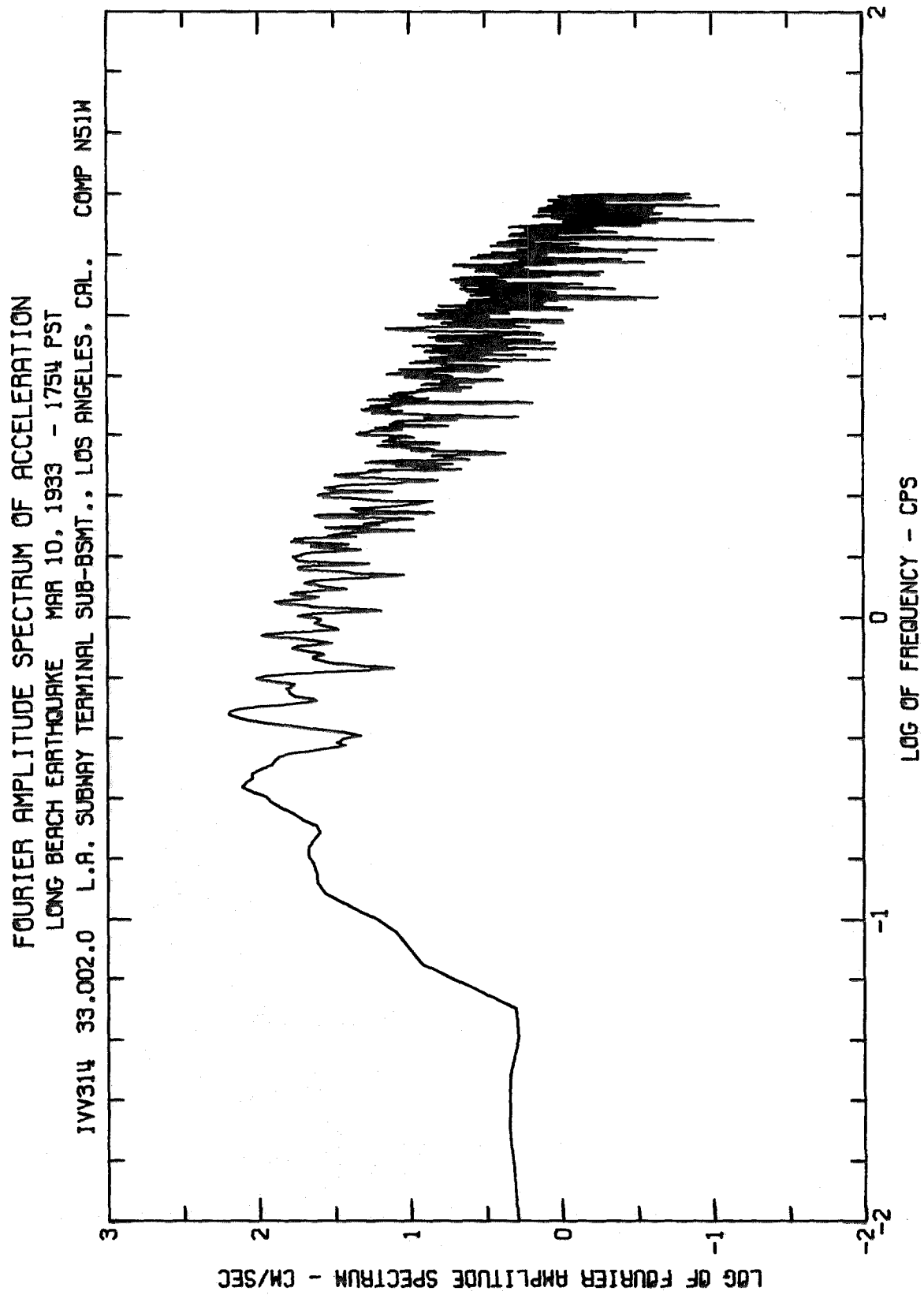


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION

LONG BEACH EARTHQUAKE MAR 10, 1933 - 1754 PST

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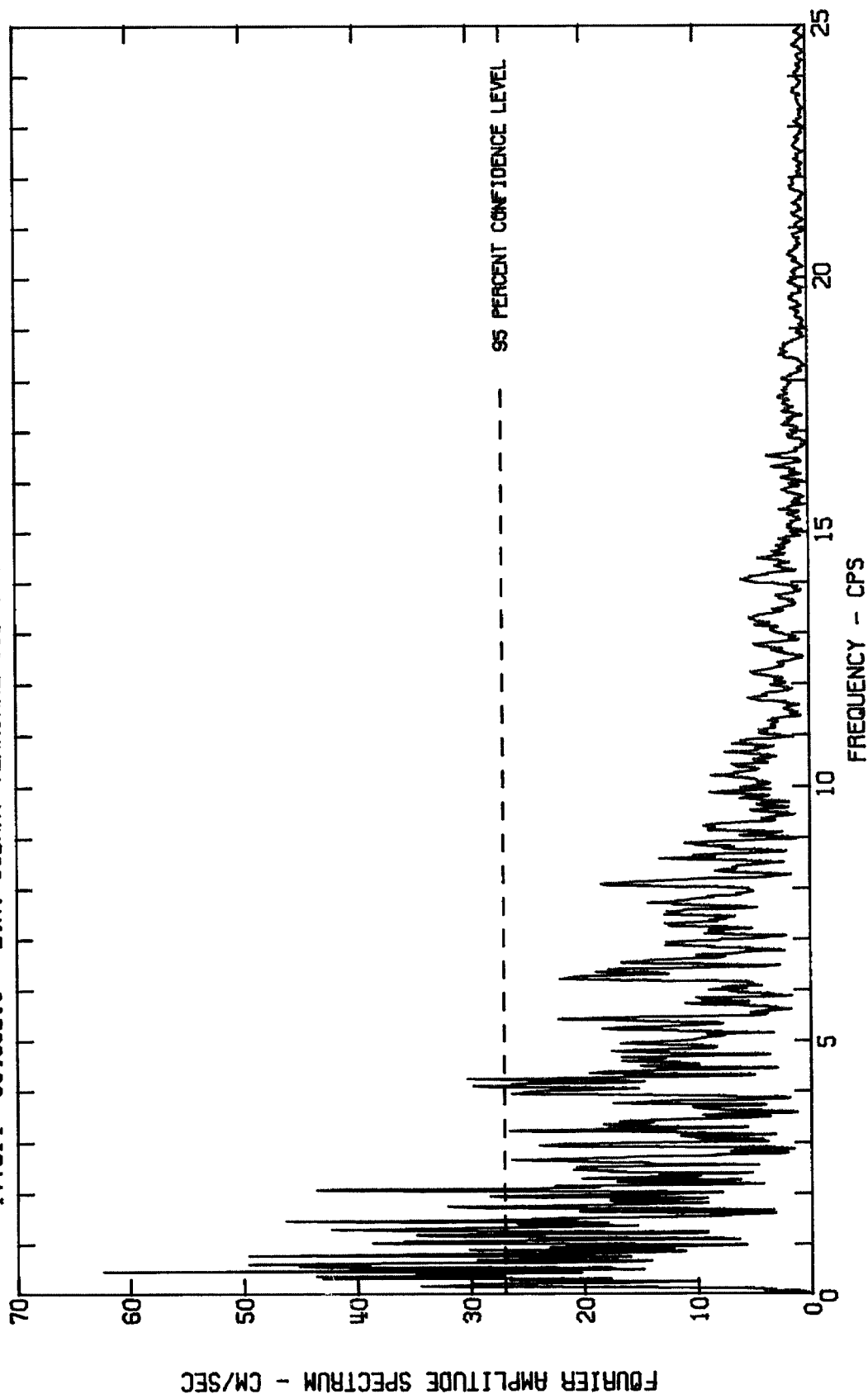


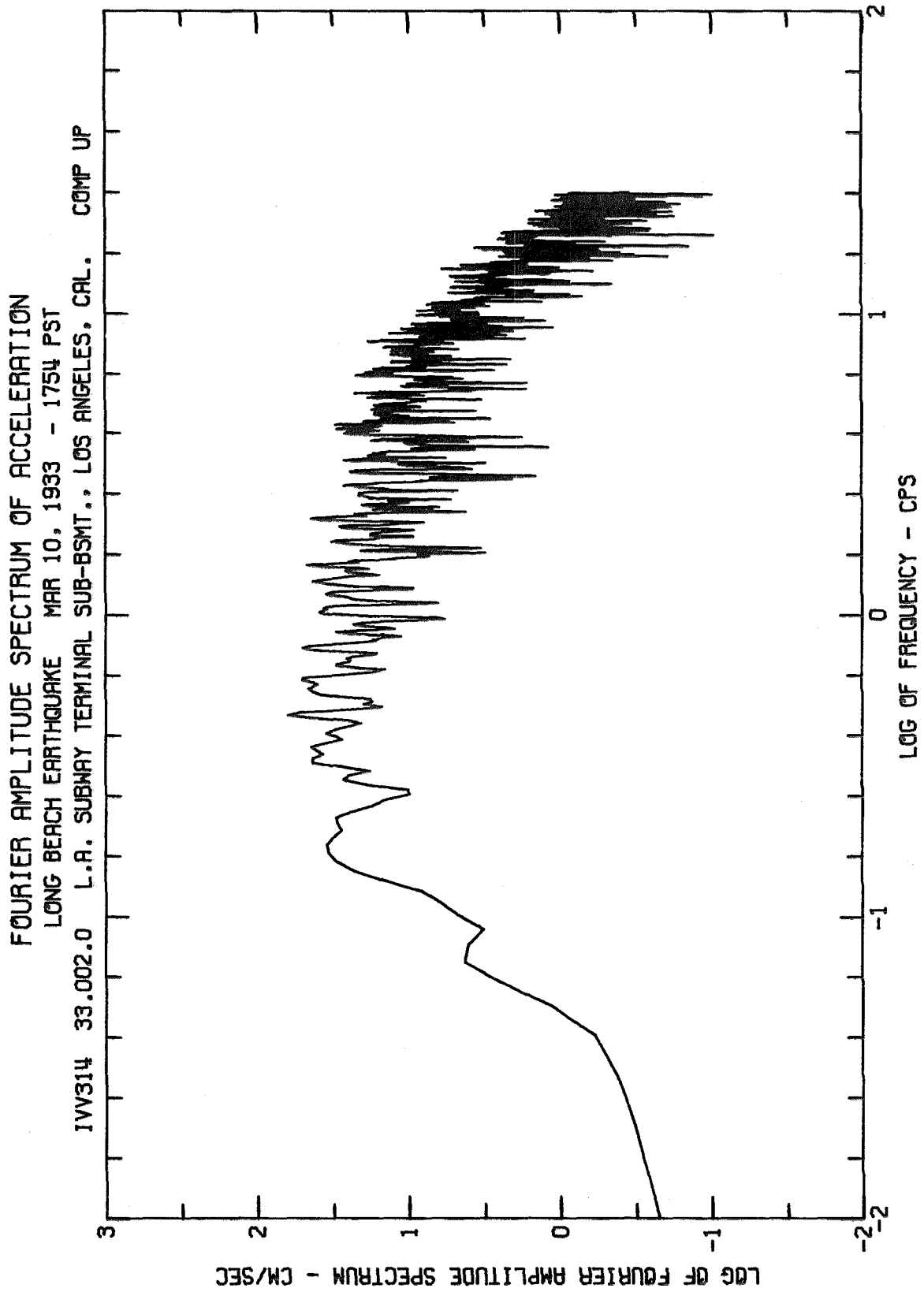


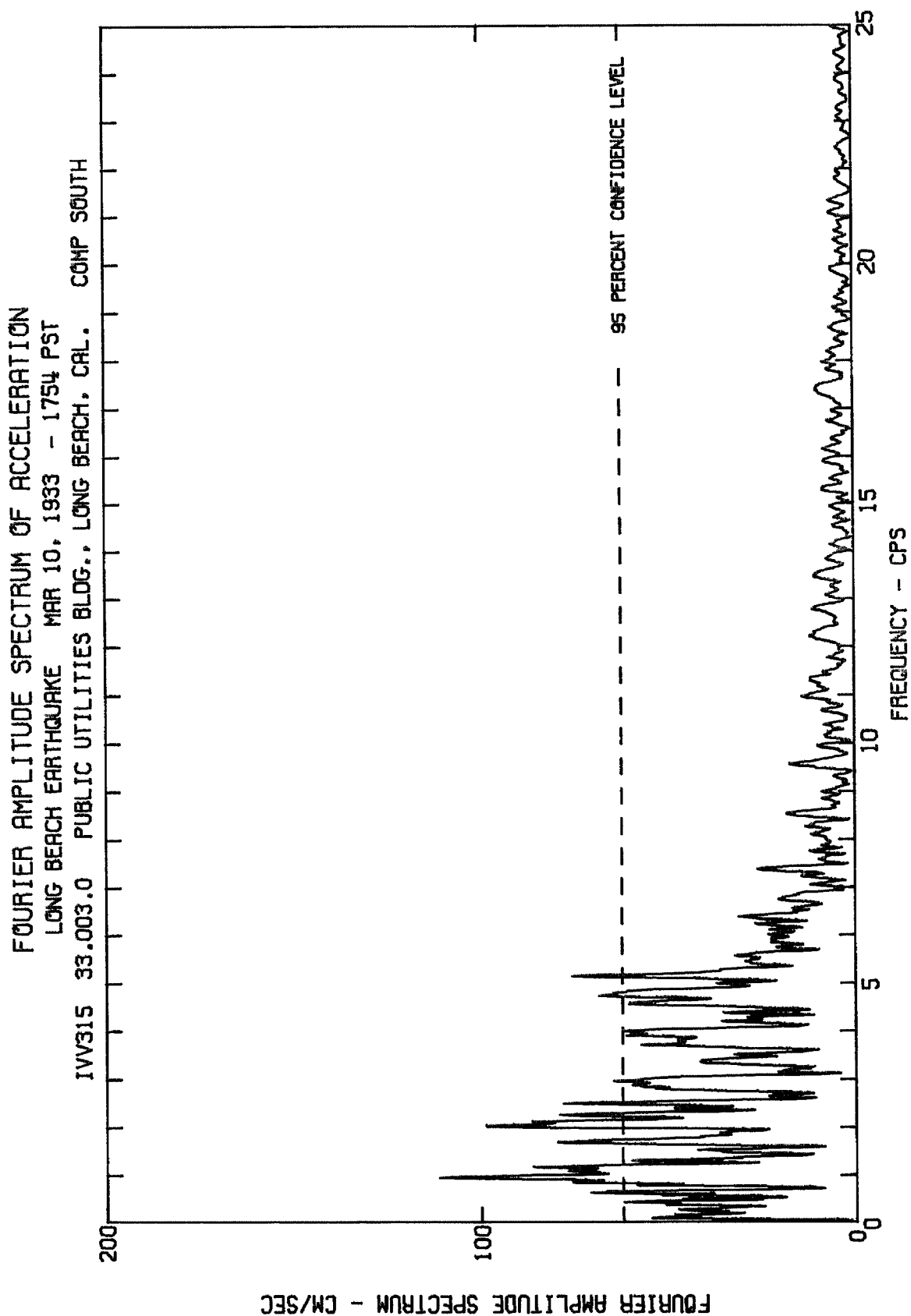
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LONG BEACH EARTHQUAKE MAR 10, 1933 - 1754 PST

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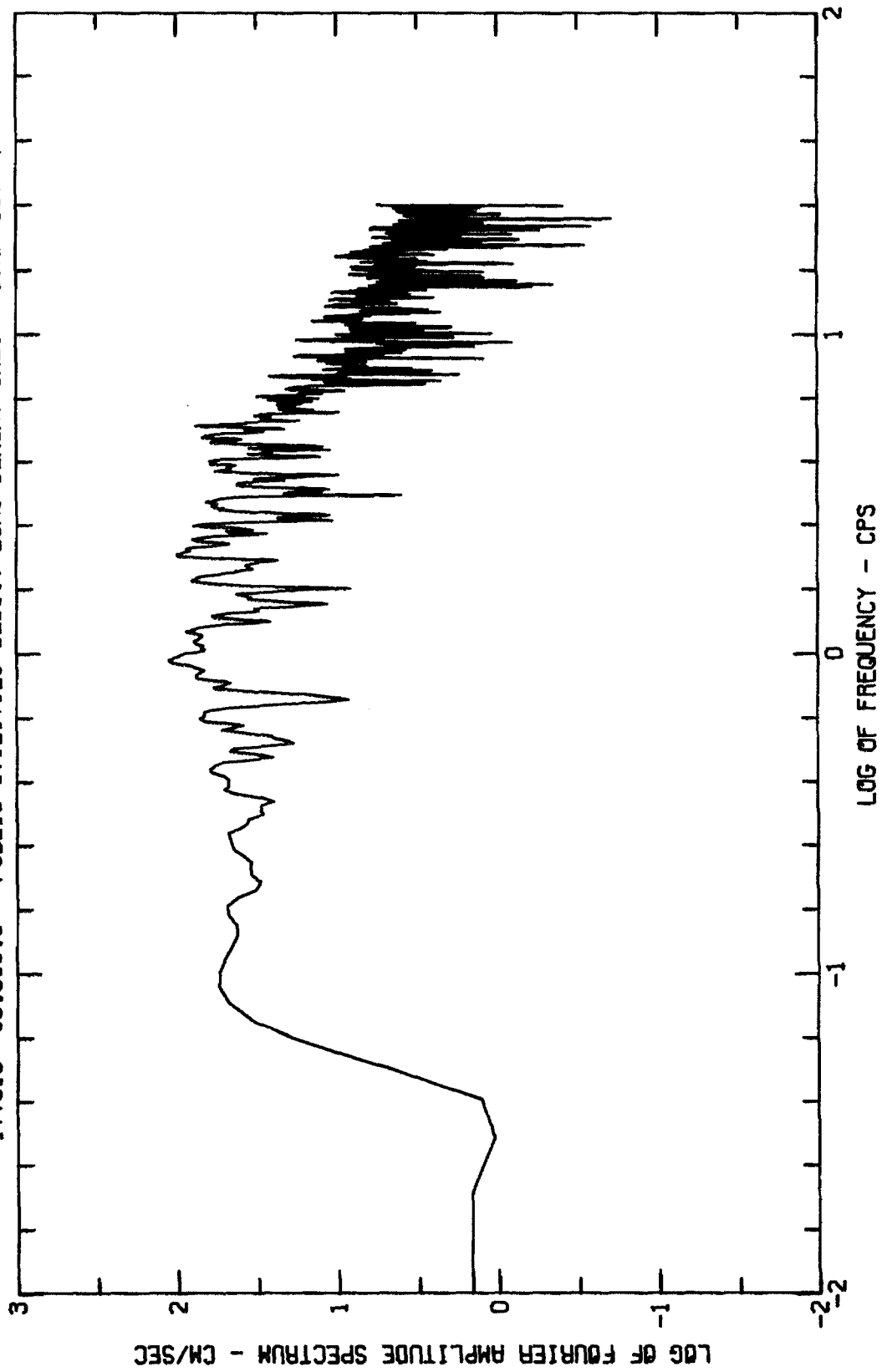




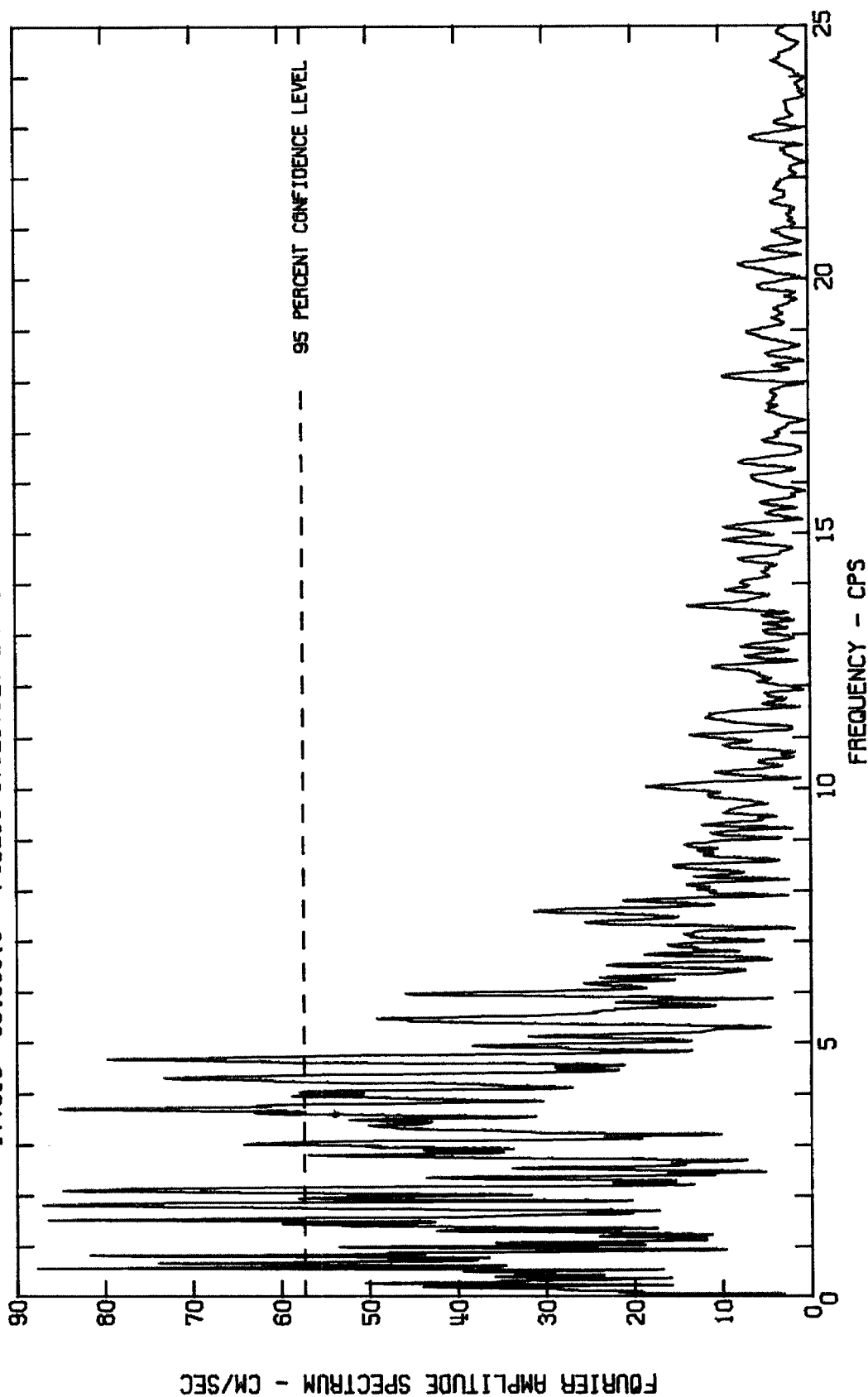
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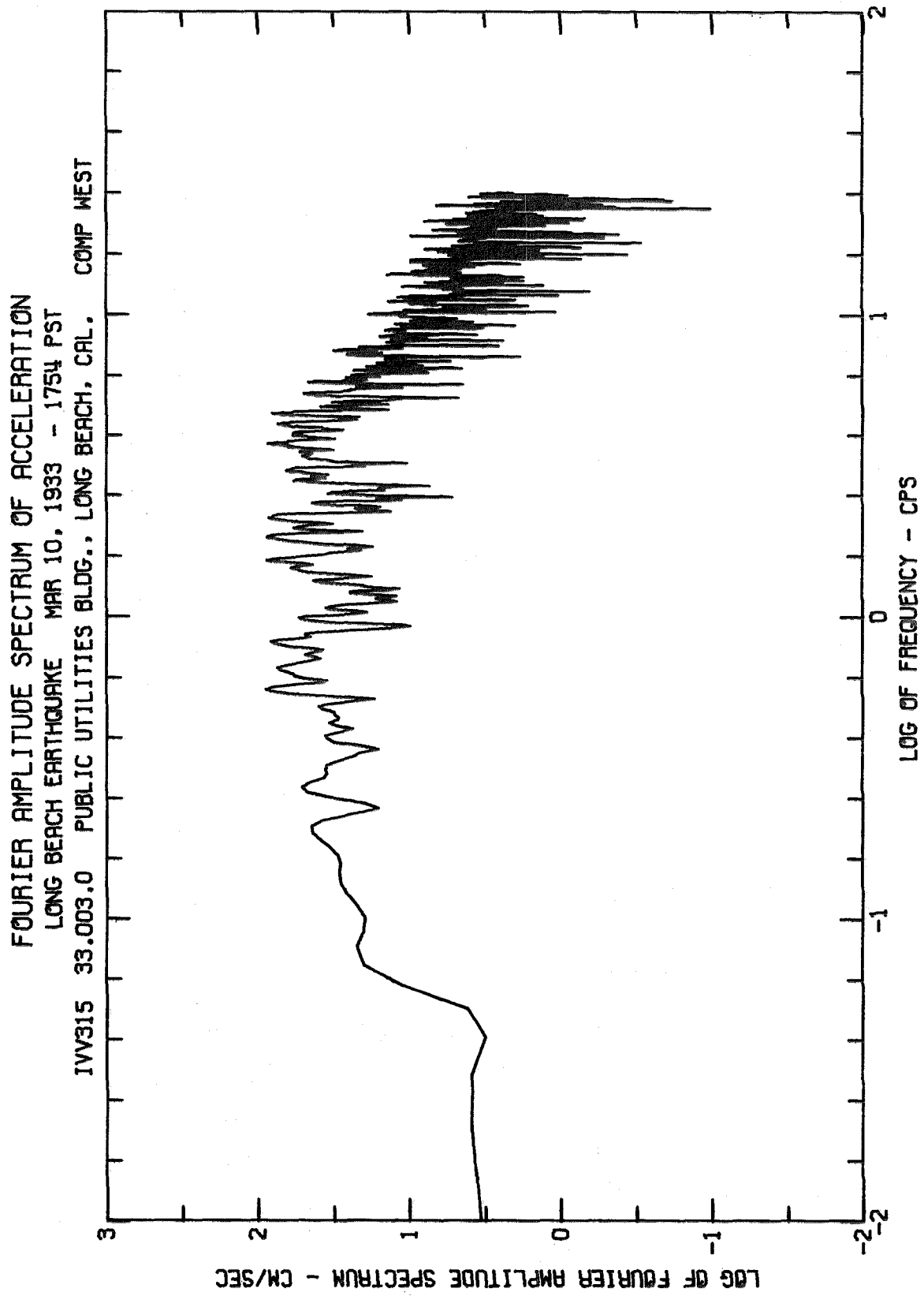
LONG BEACH EARTHQUAKE MAR 10, 1933 - 1754 PST

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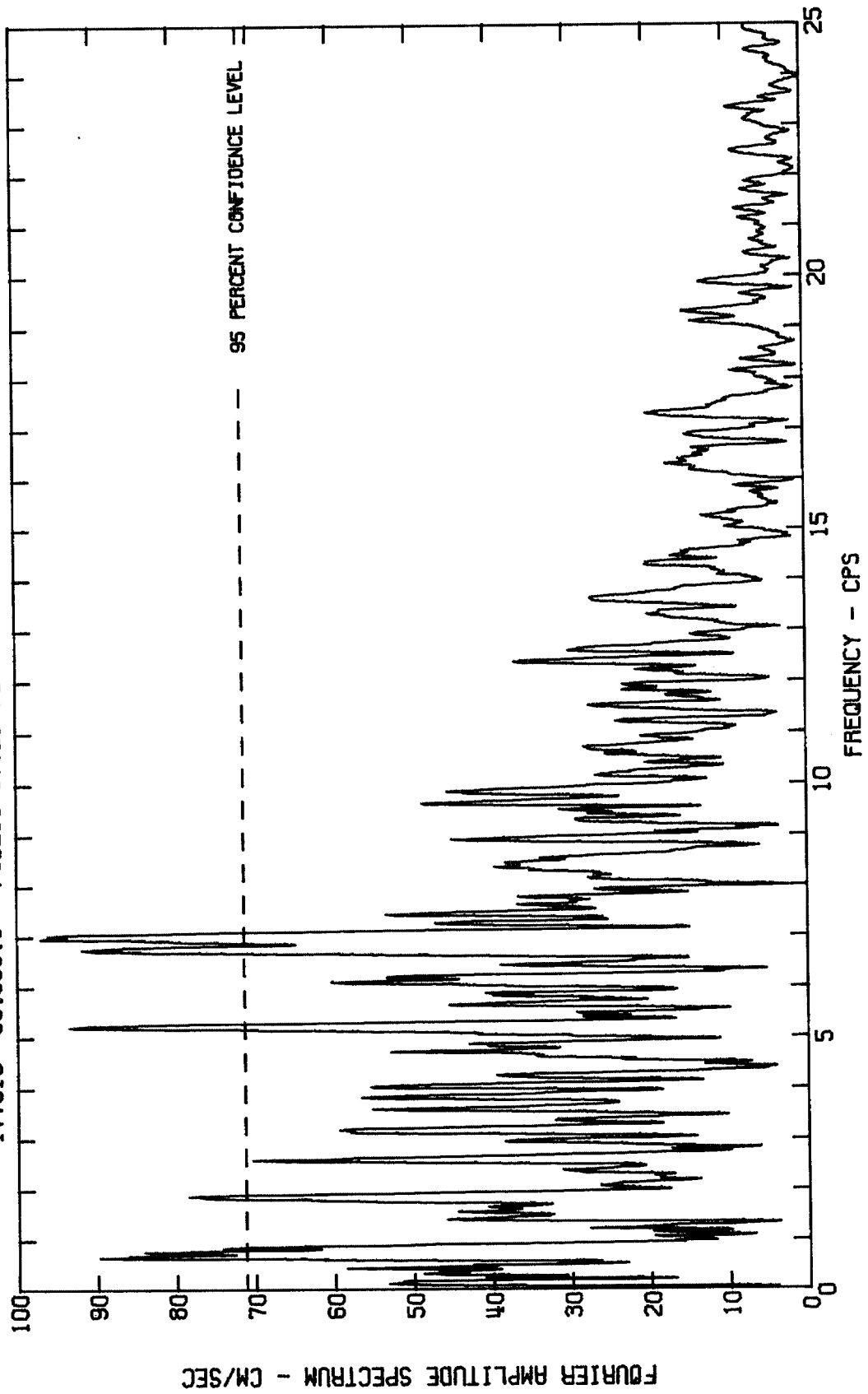


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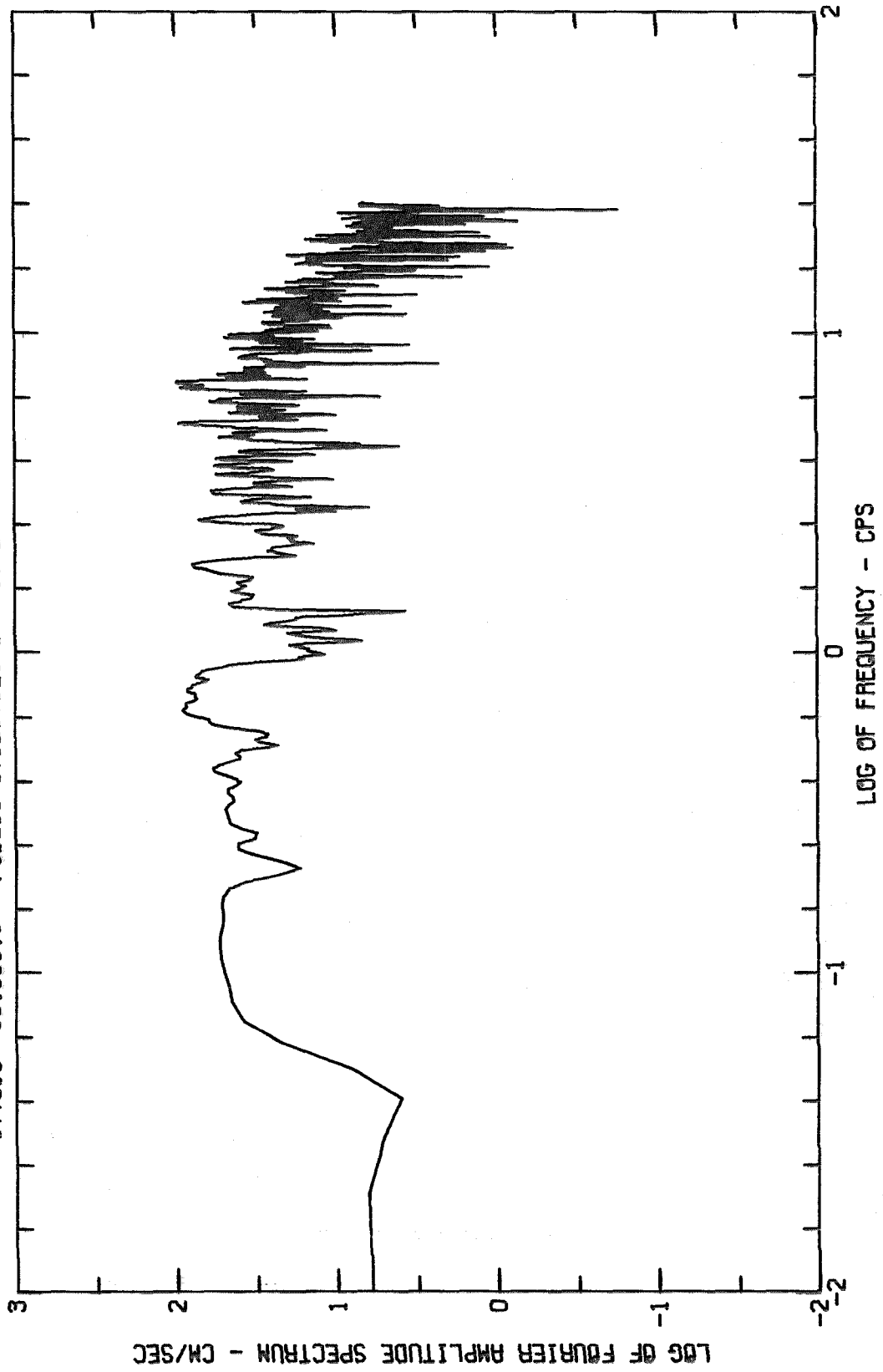


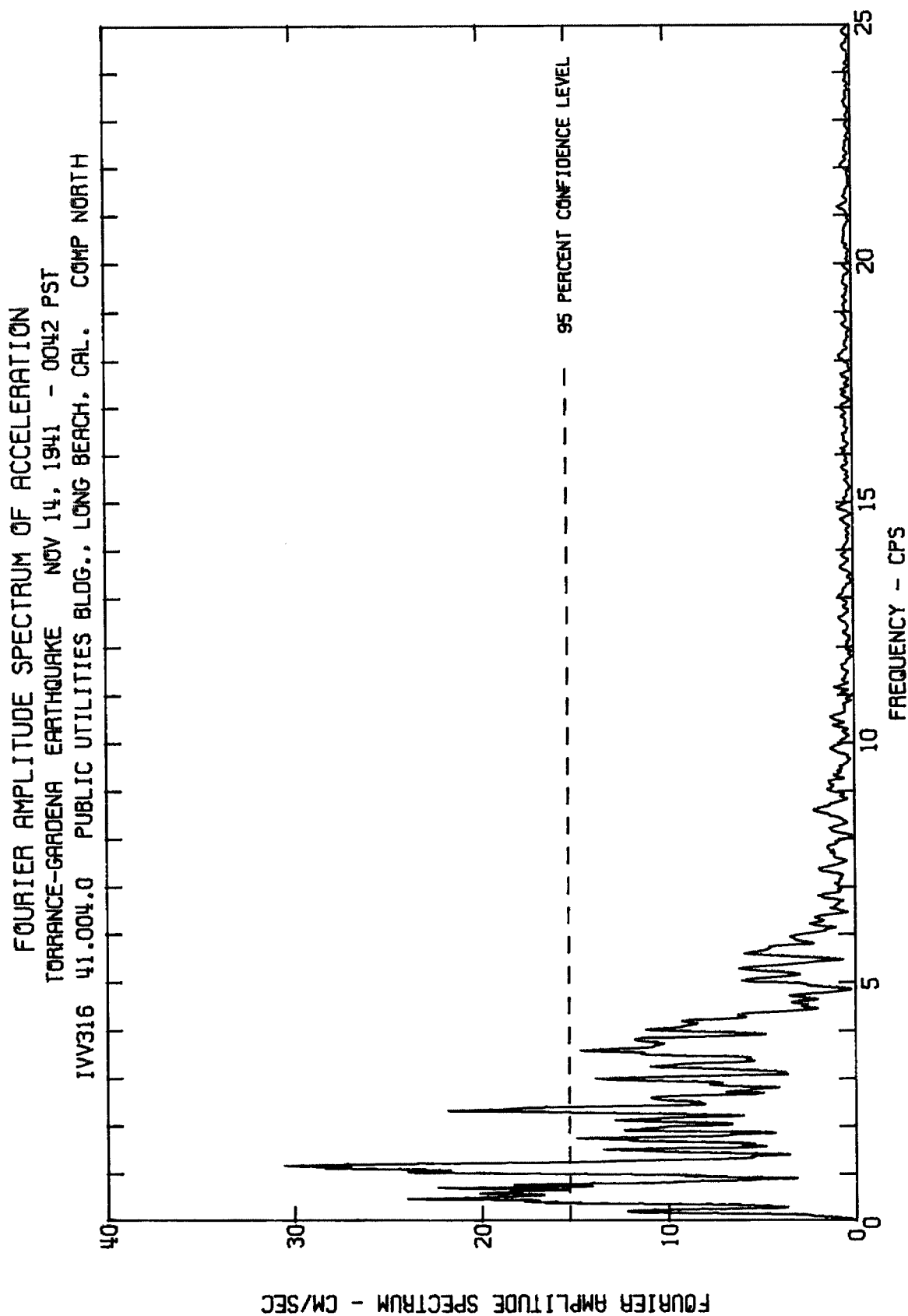


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
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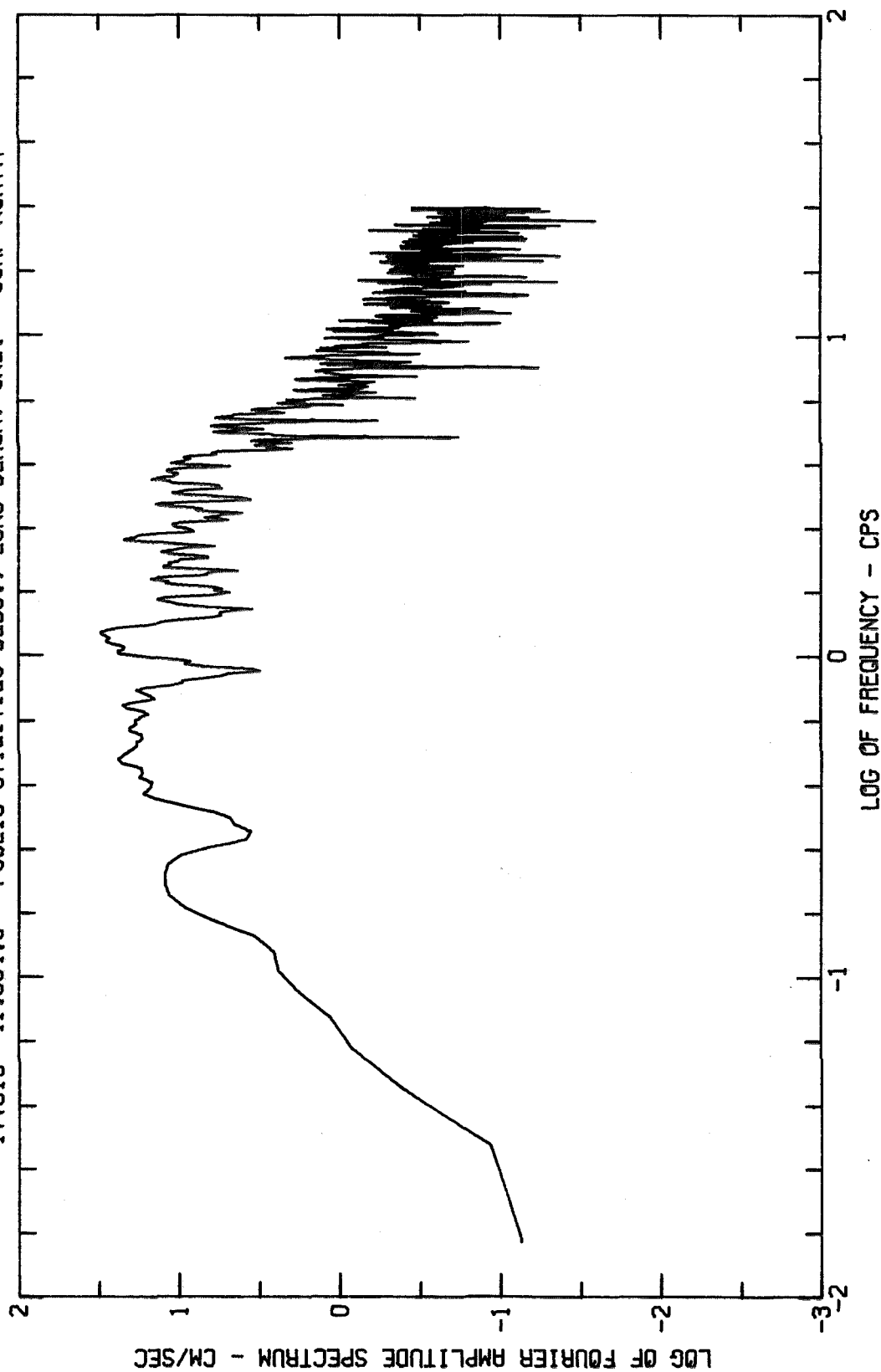


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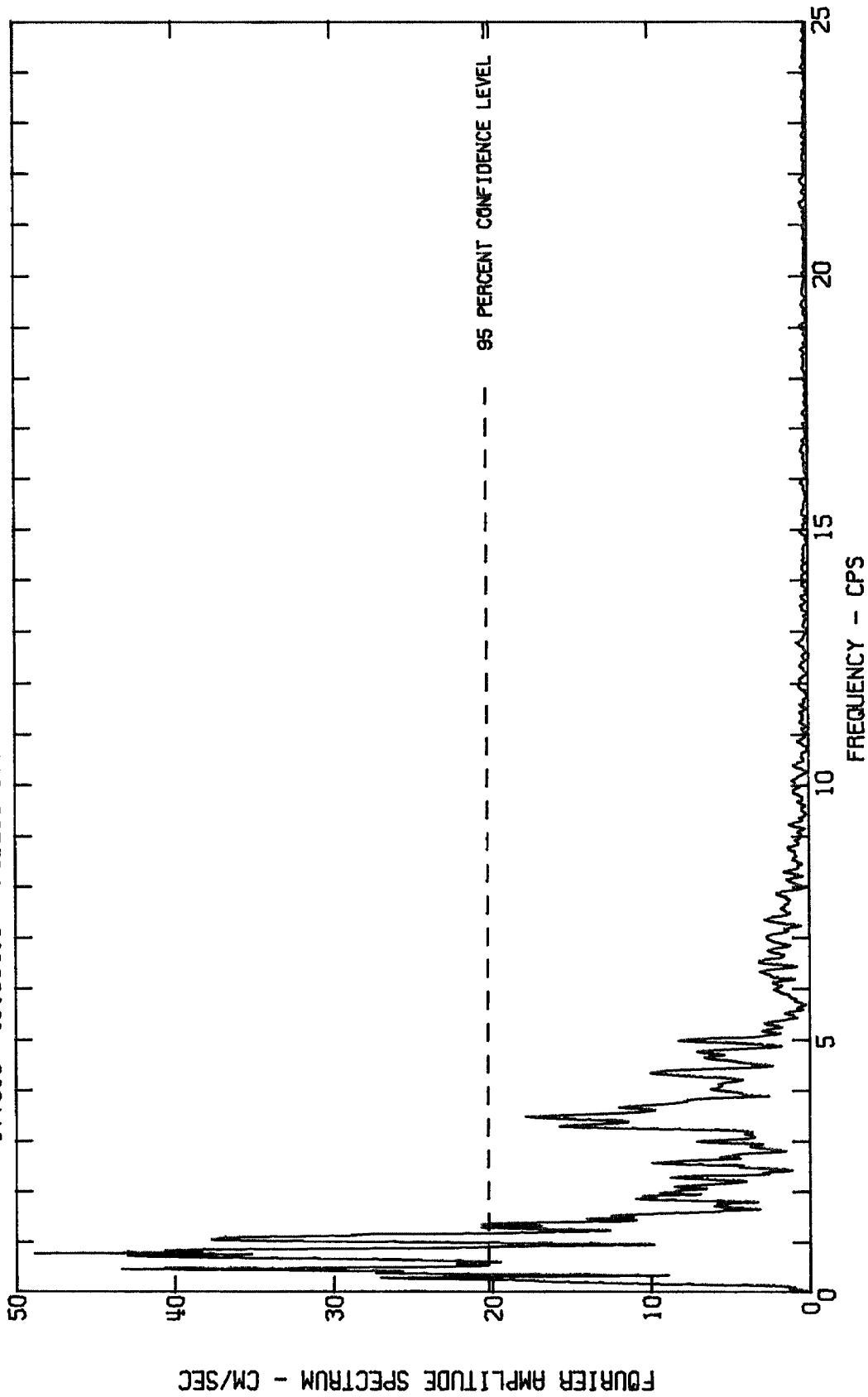




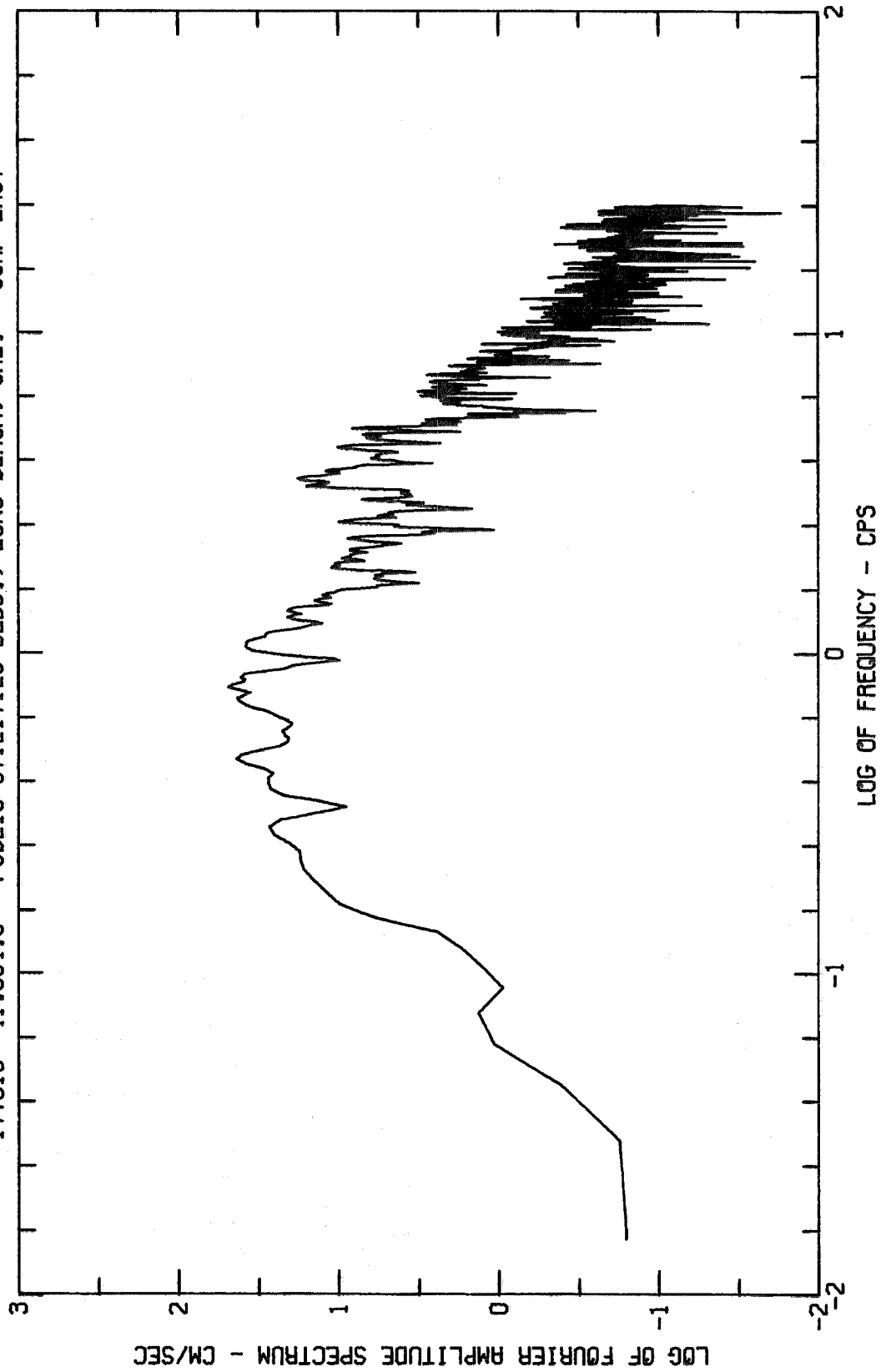
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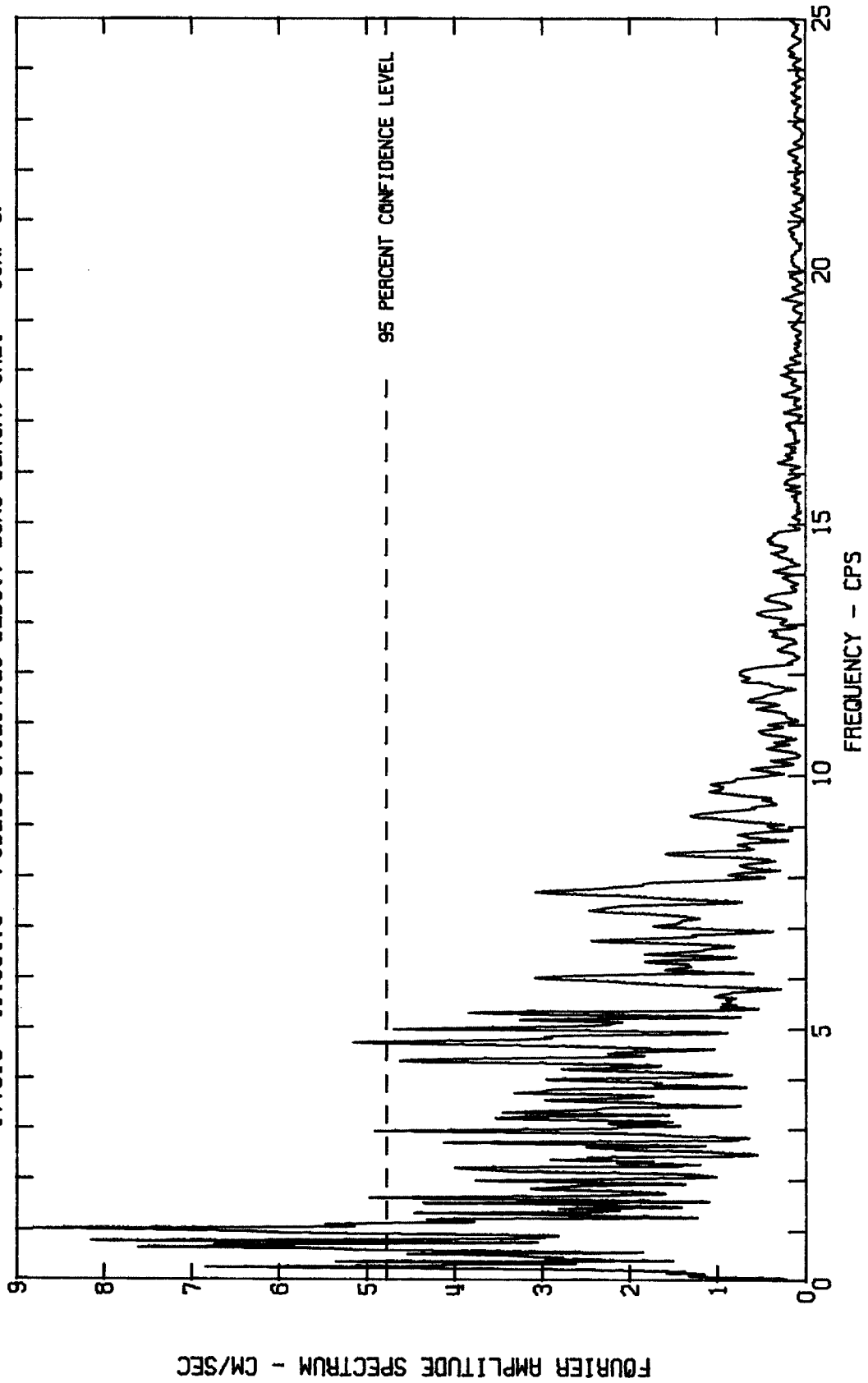
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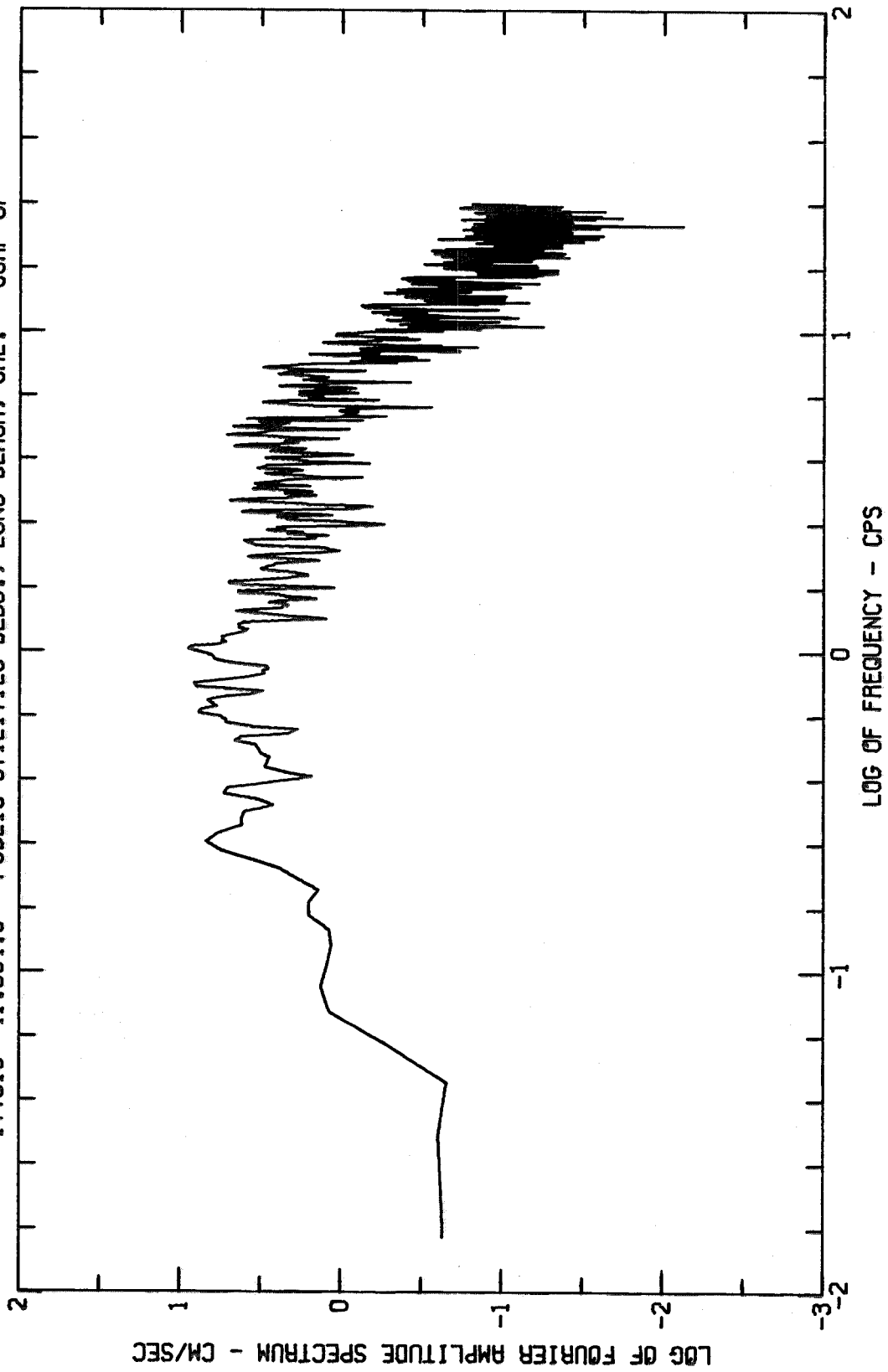
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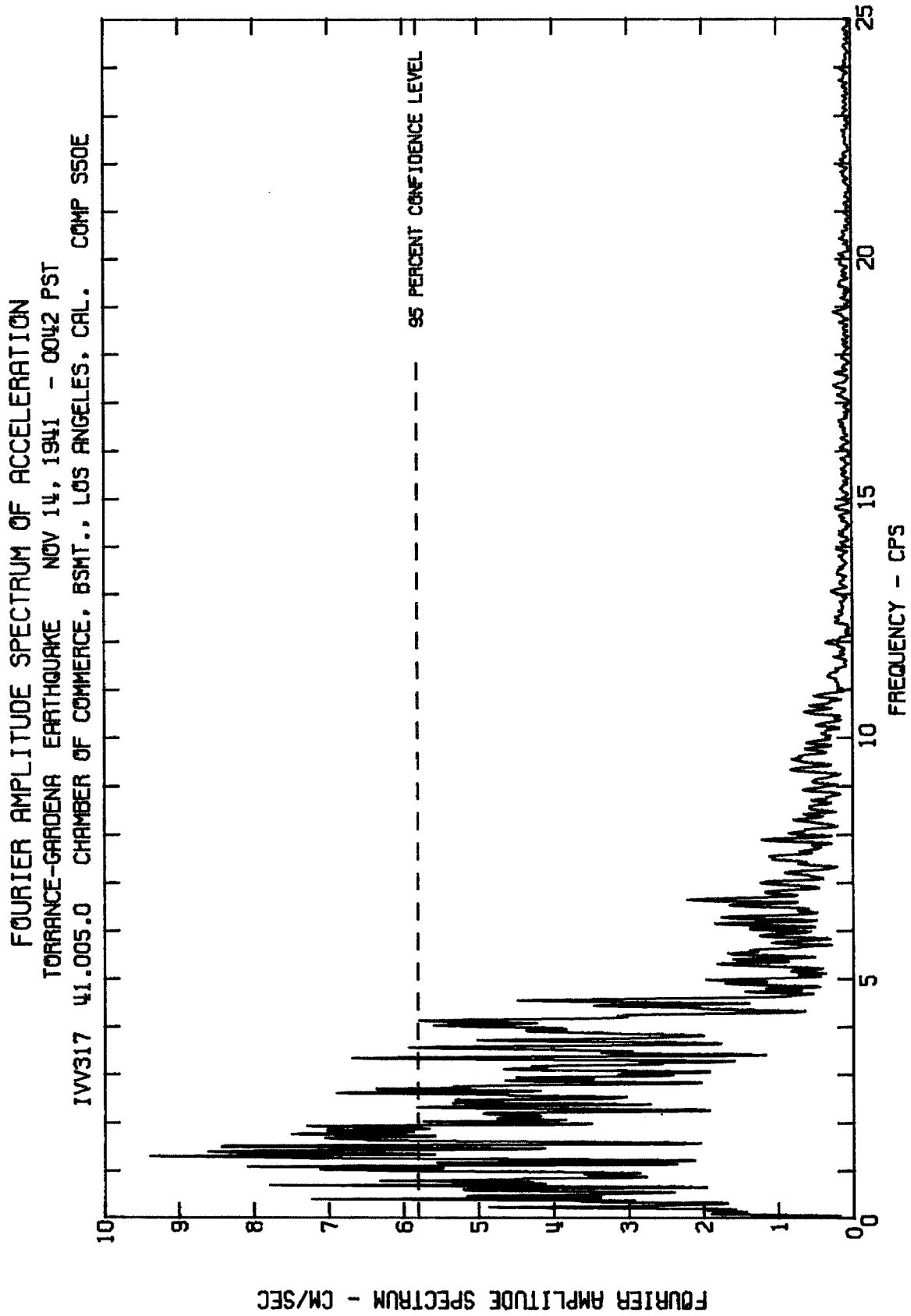


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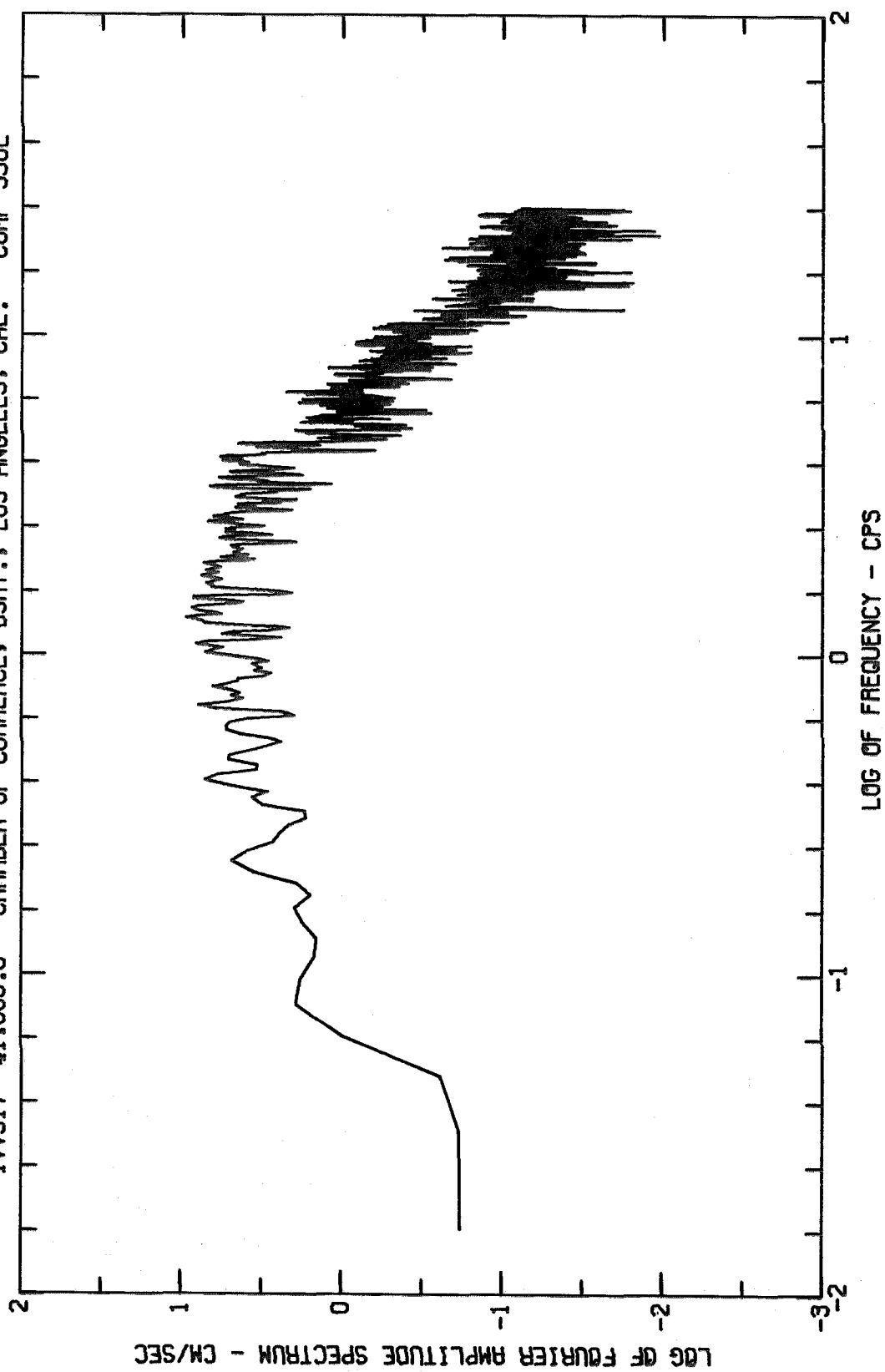


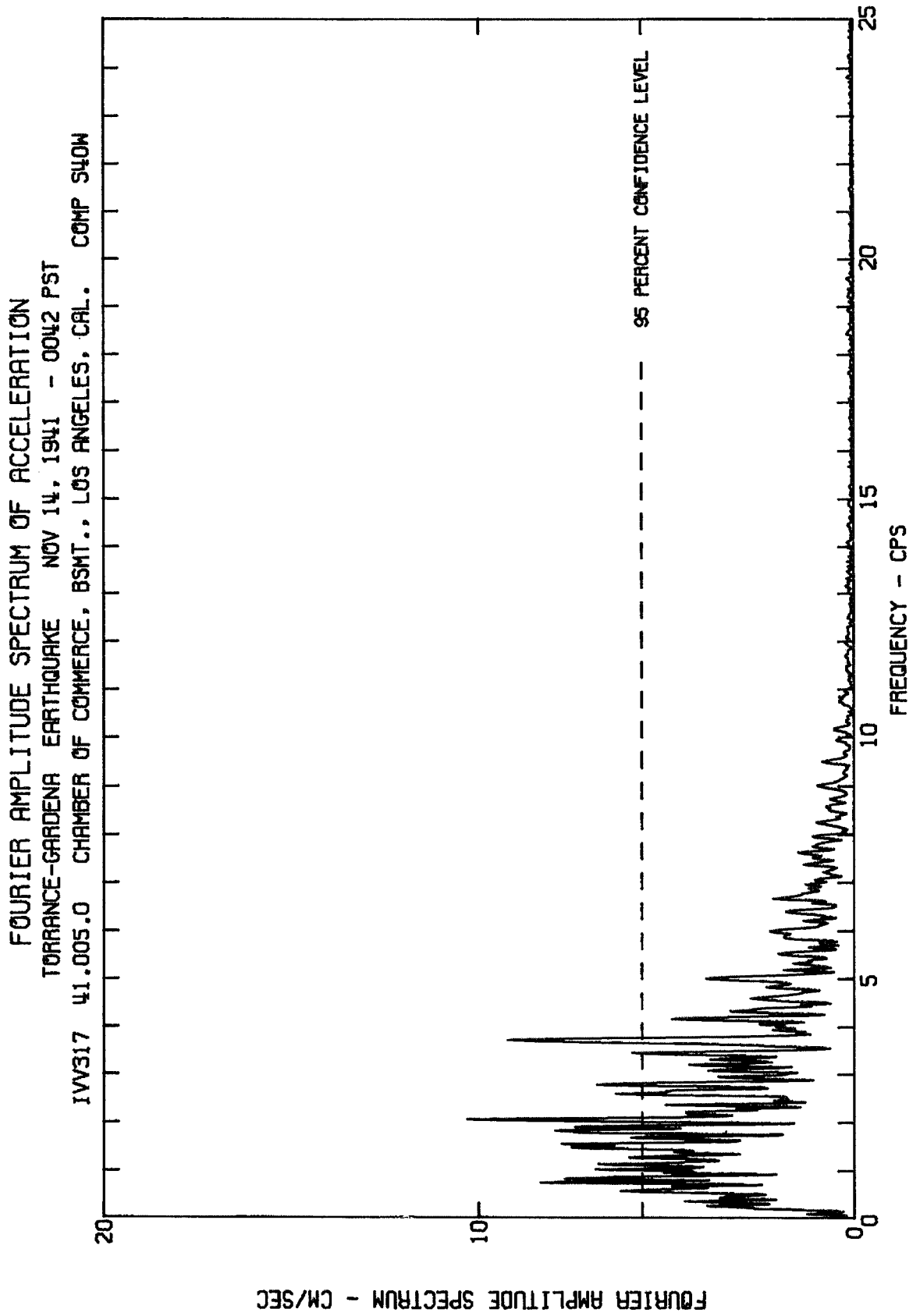
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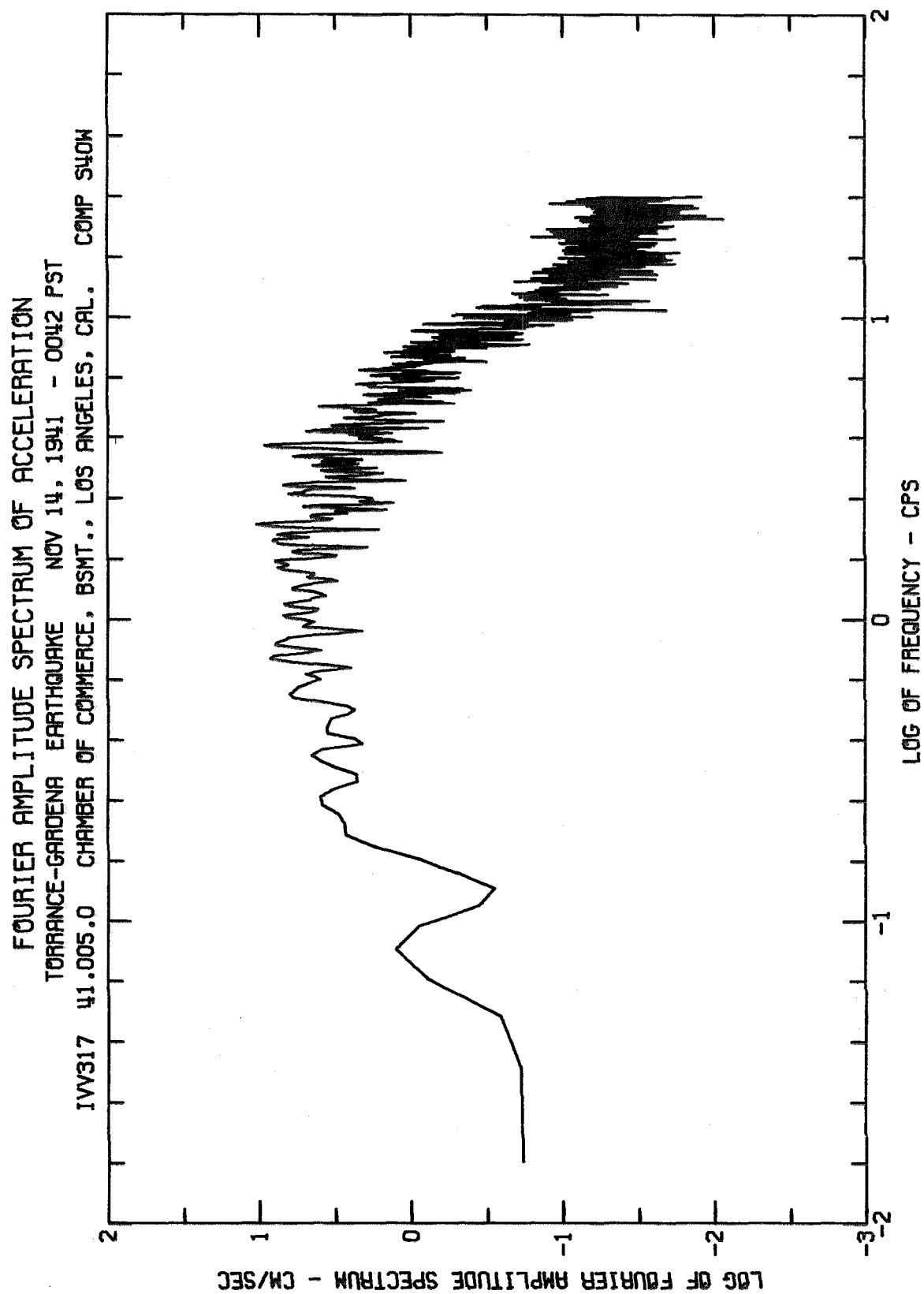


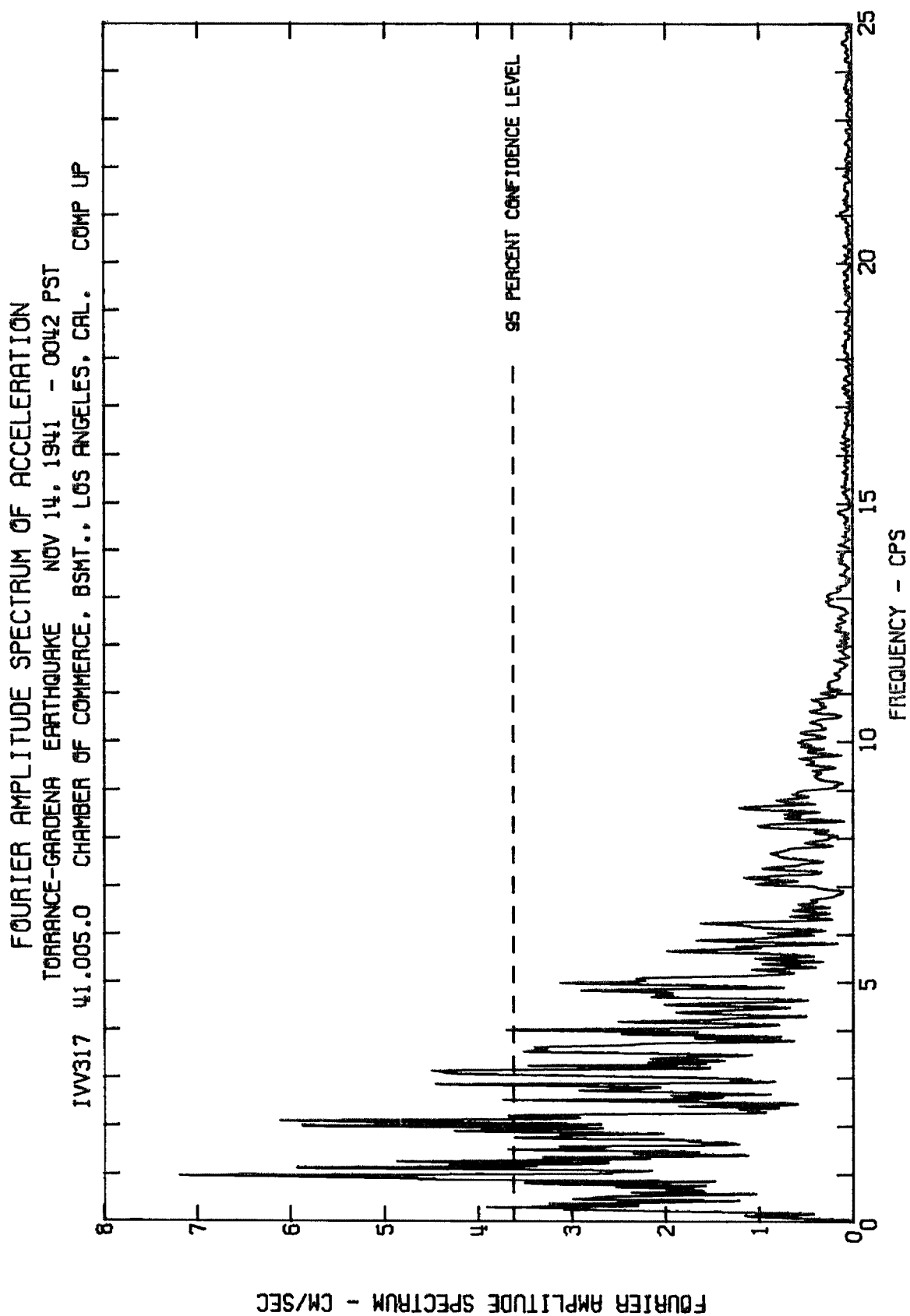


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
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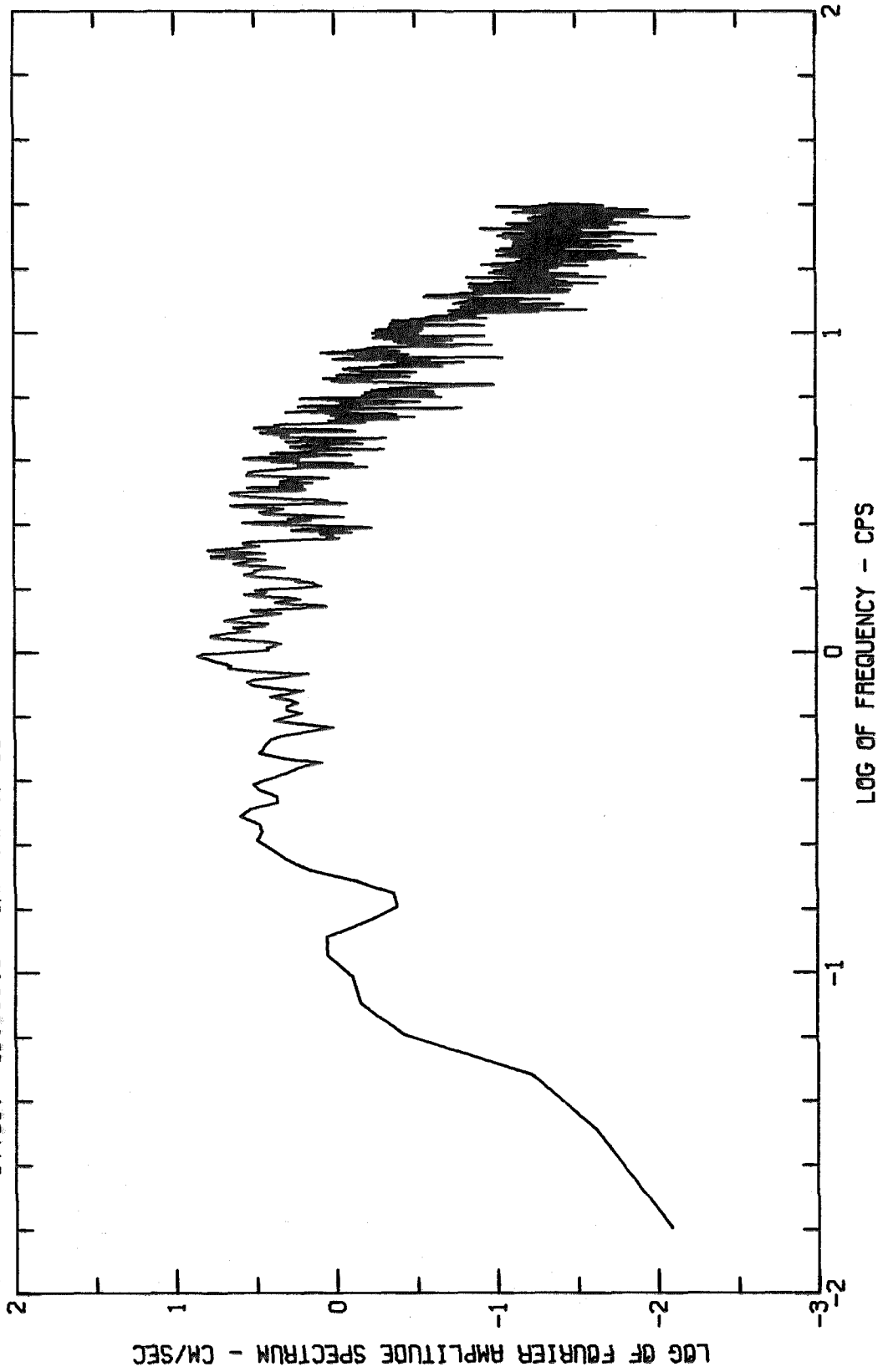


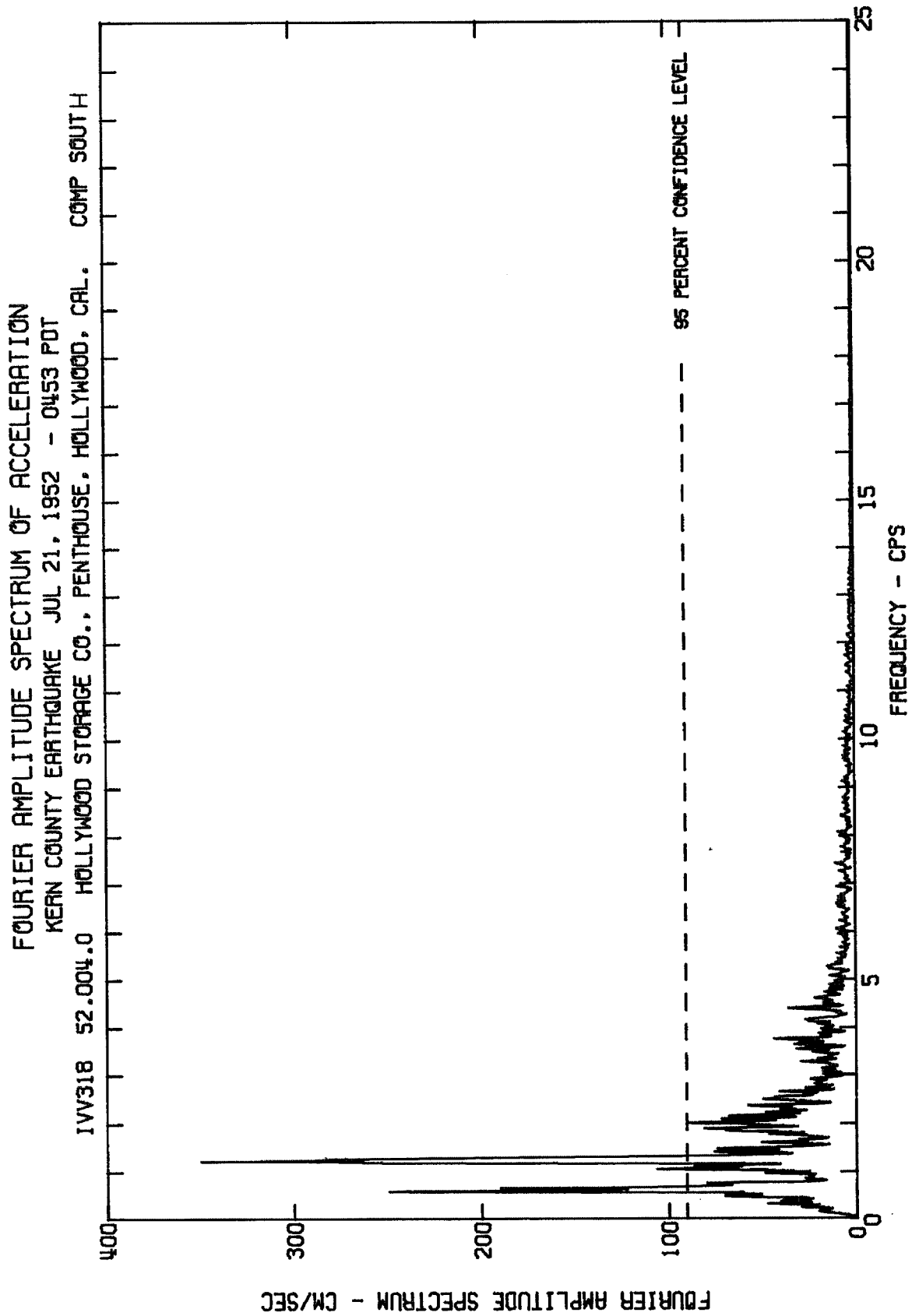


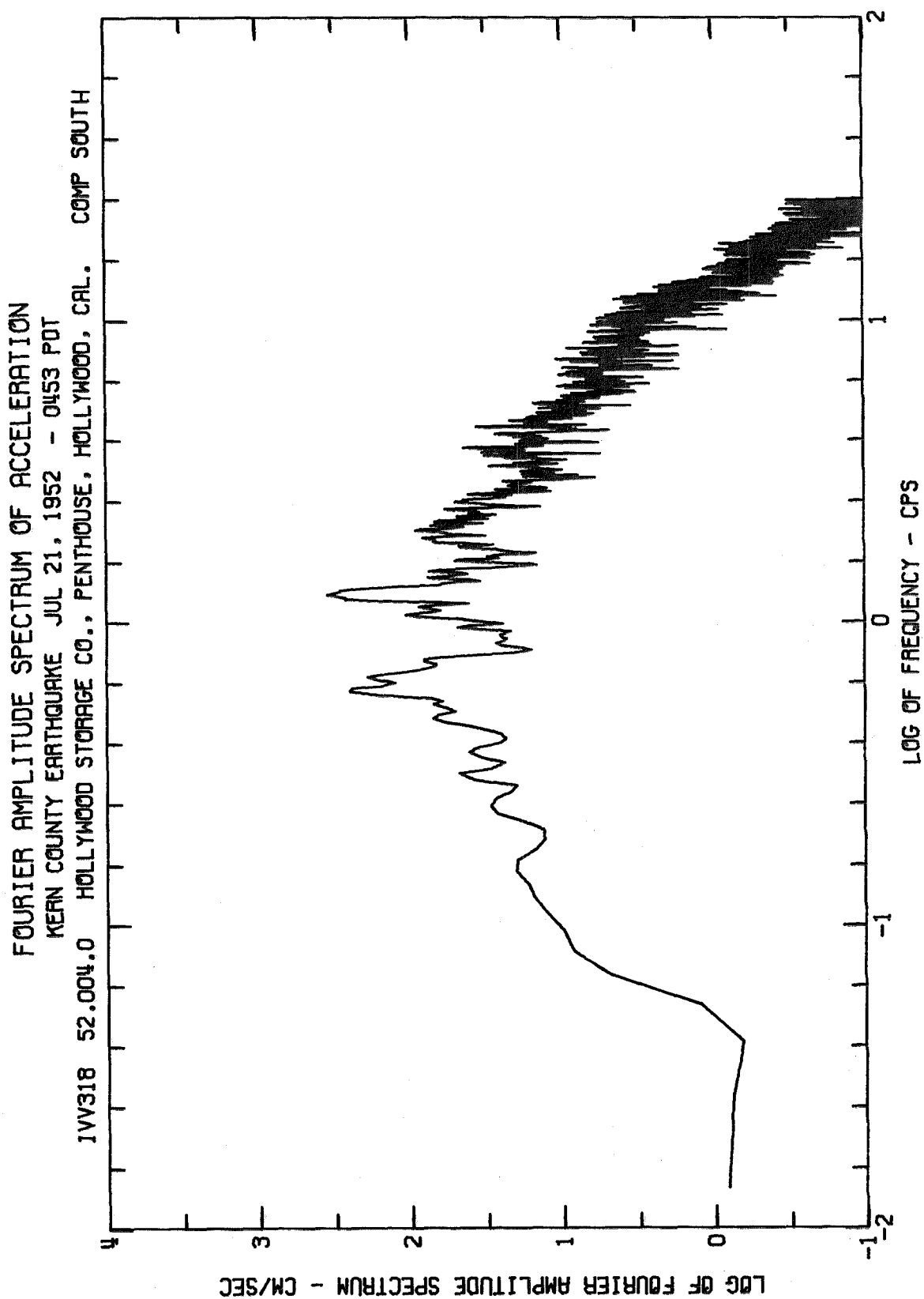


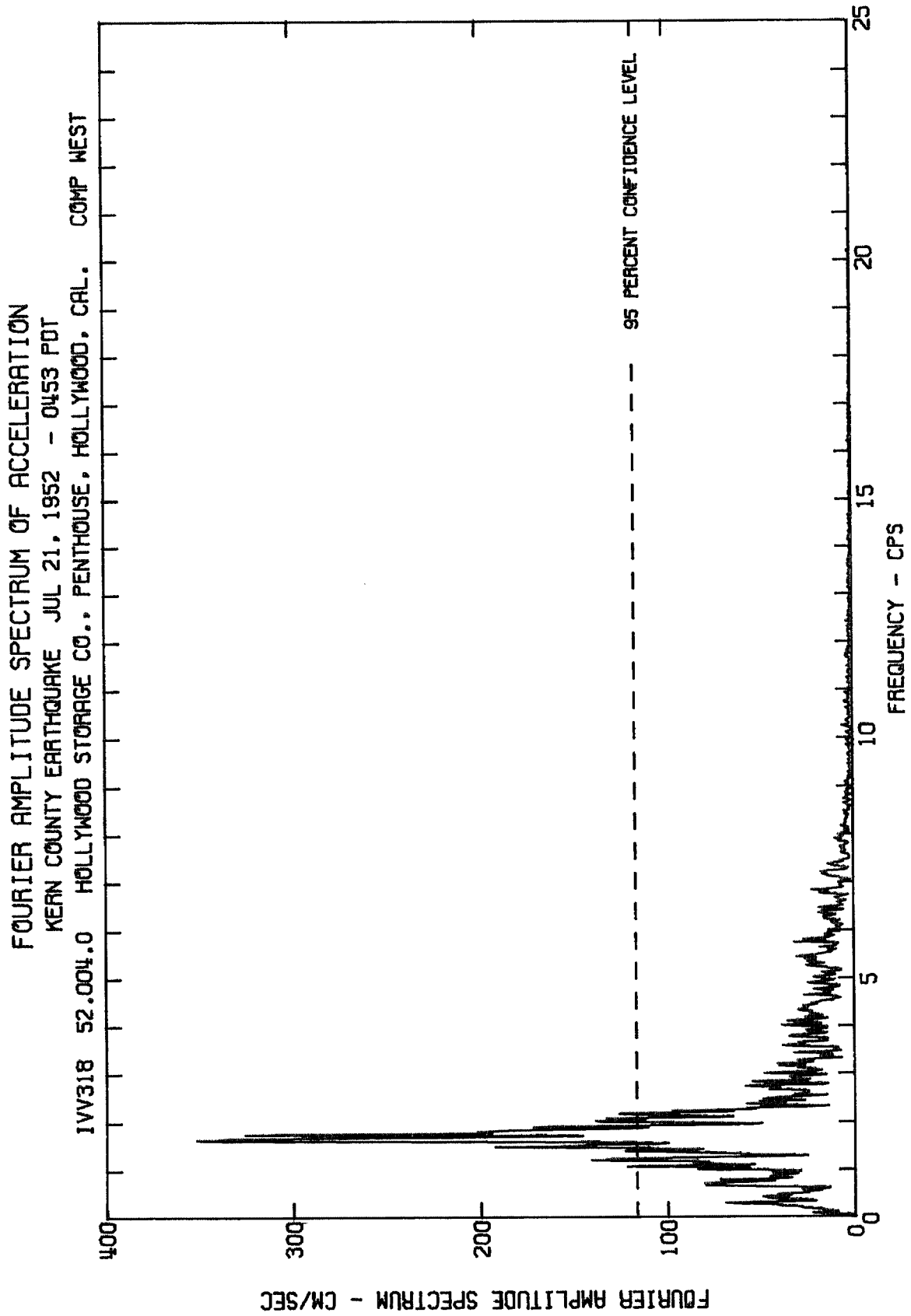


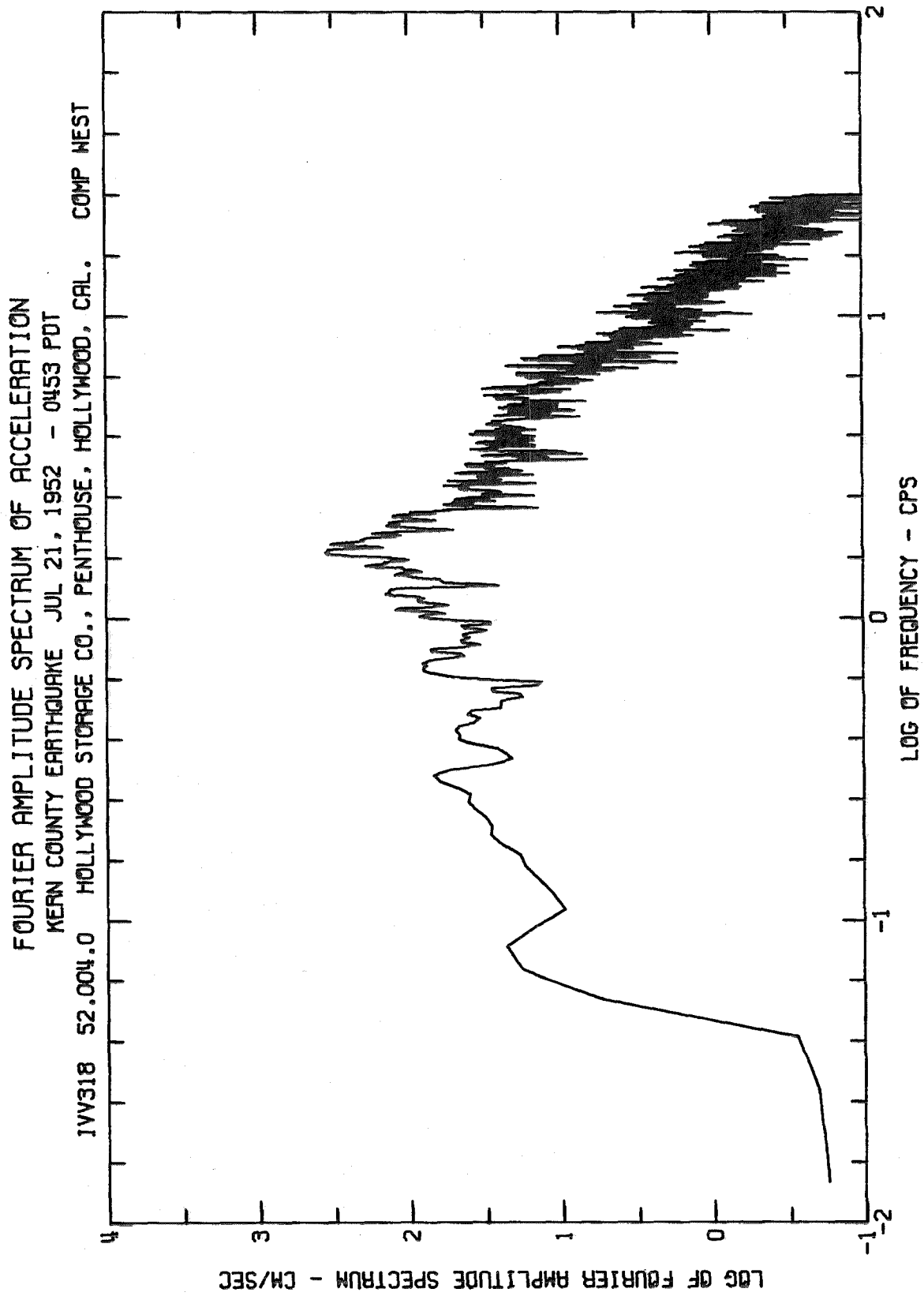
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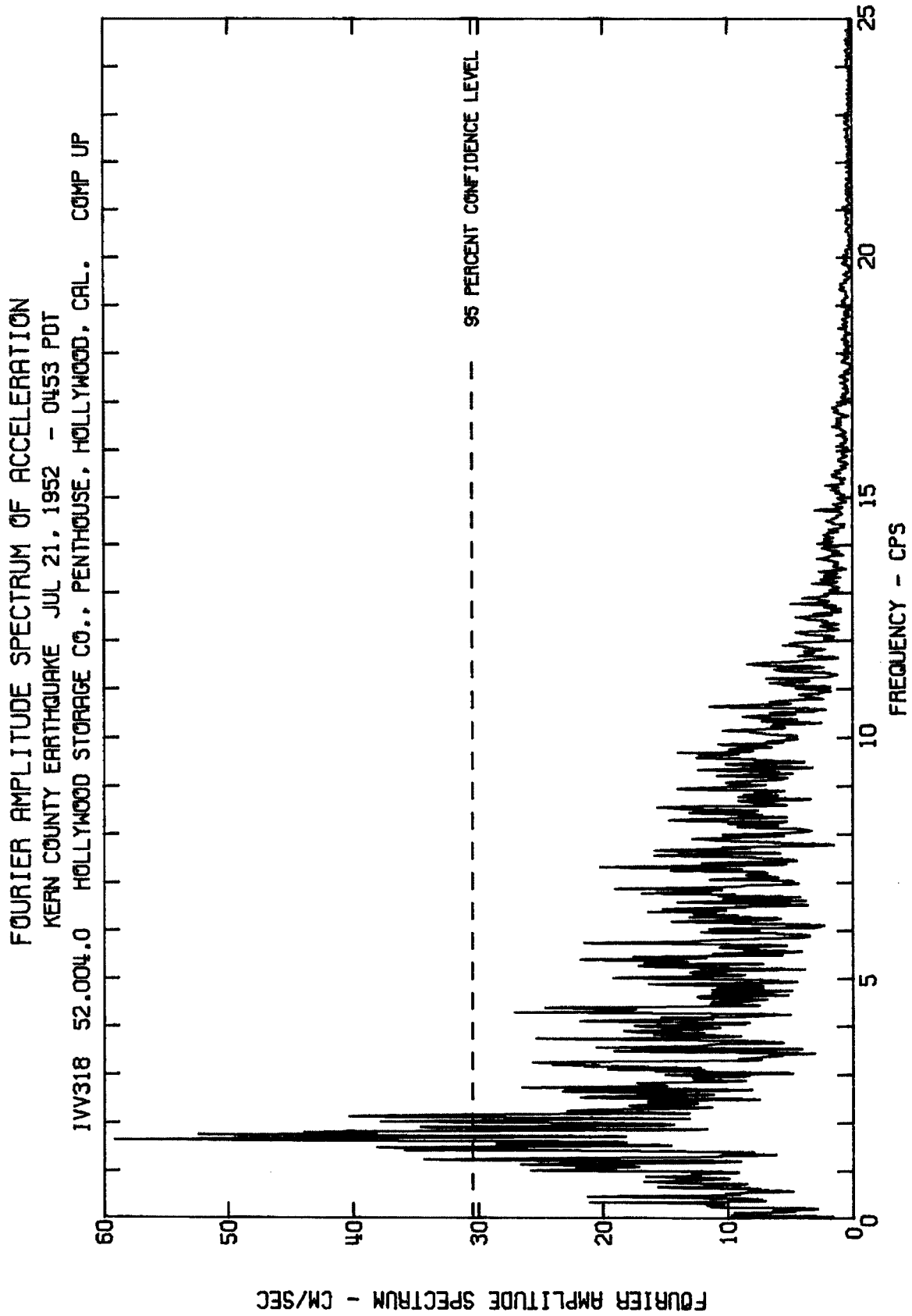


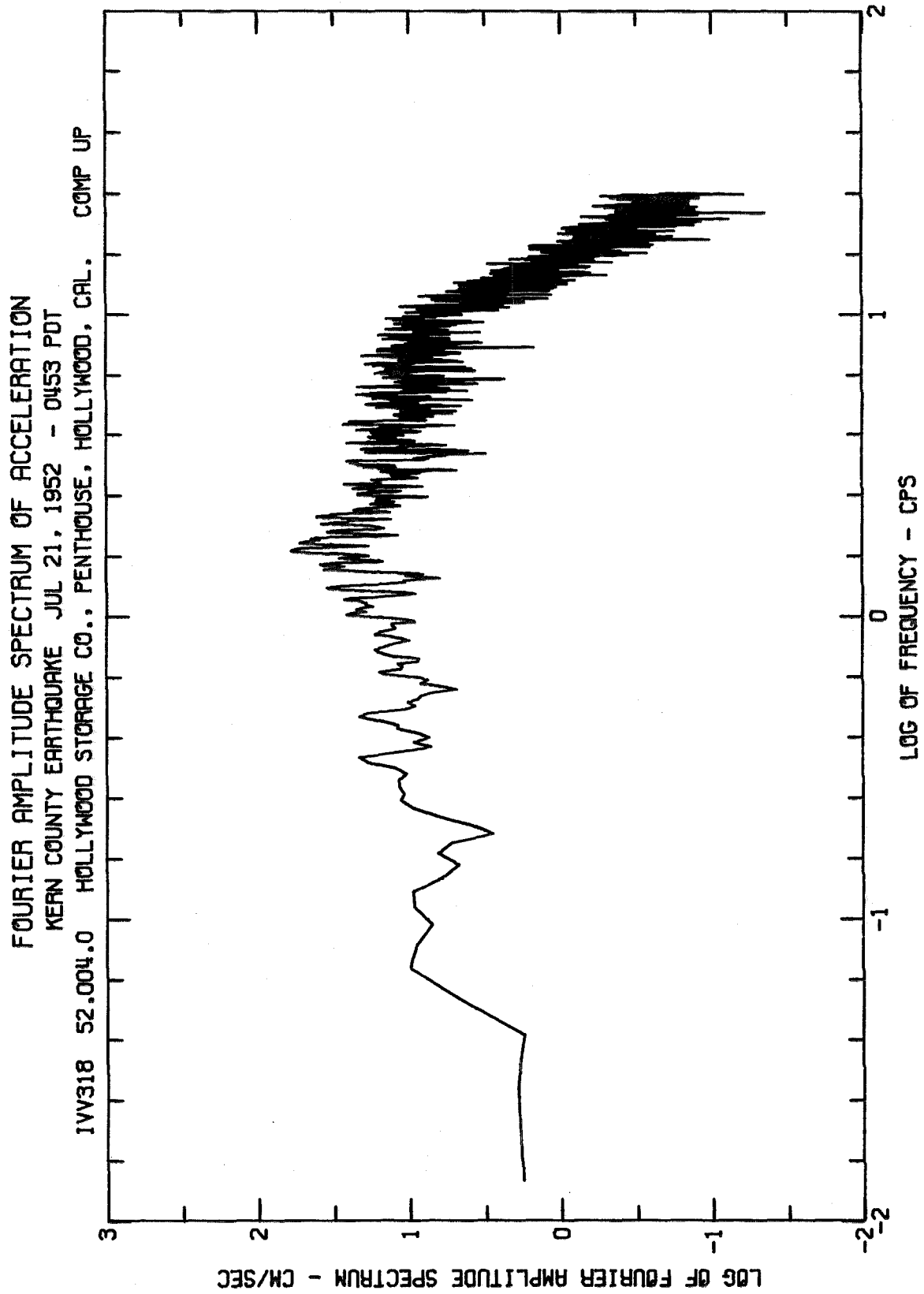




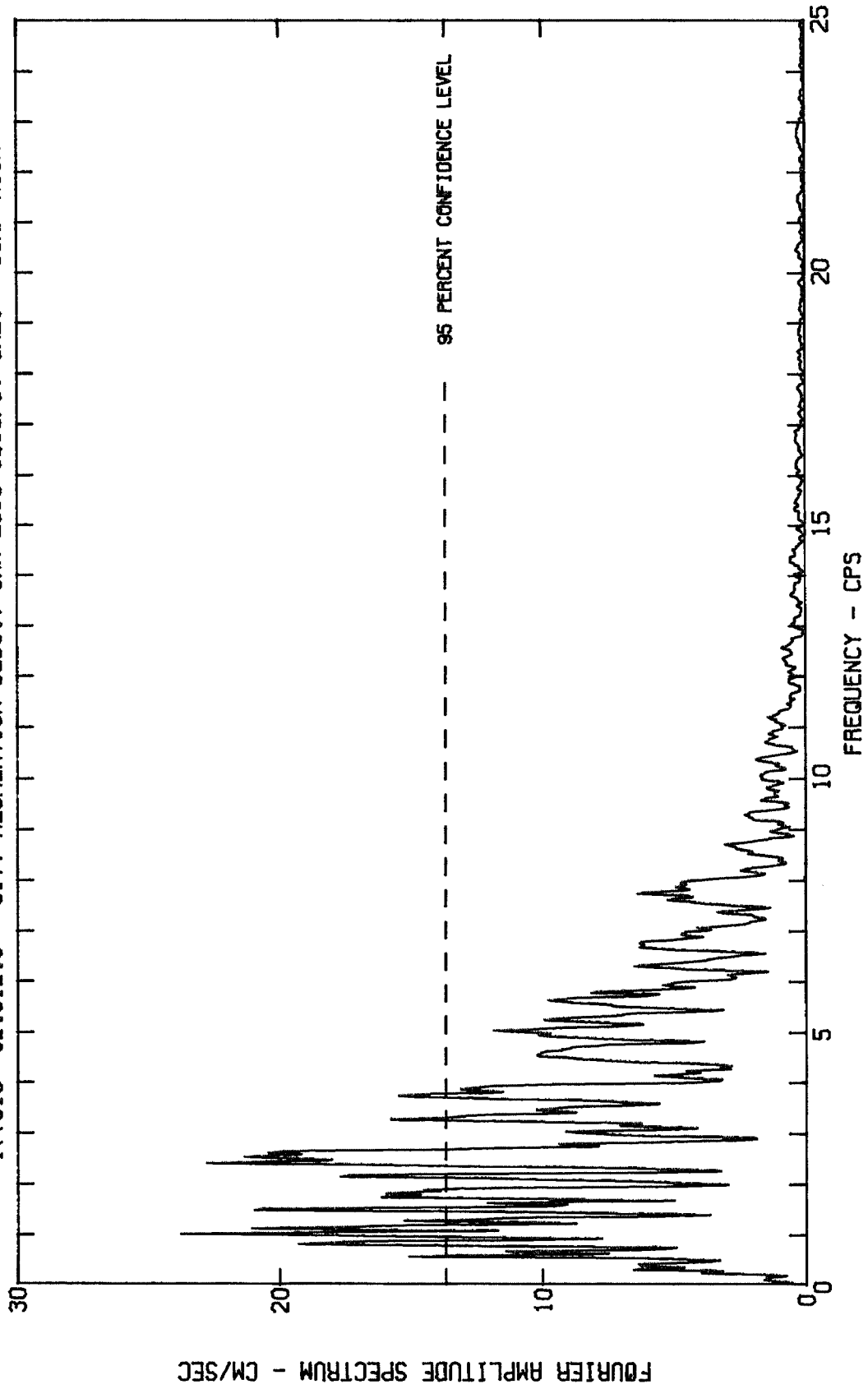


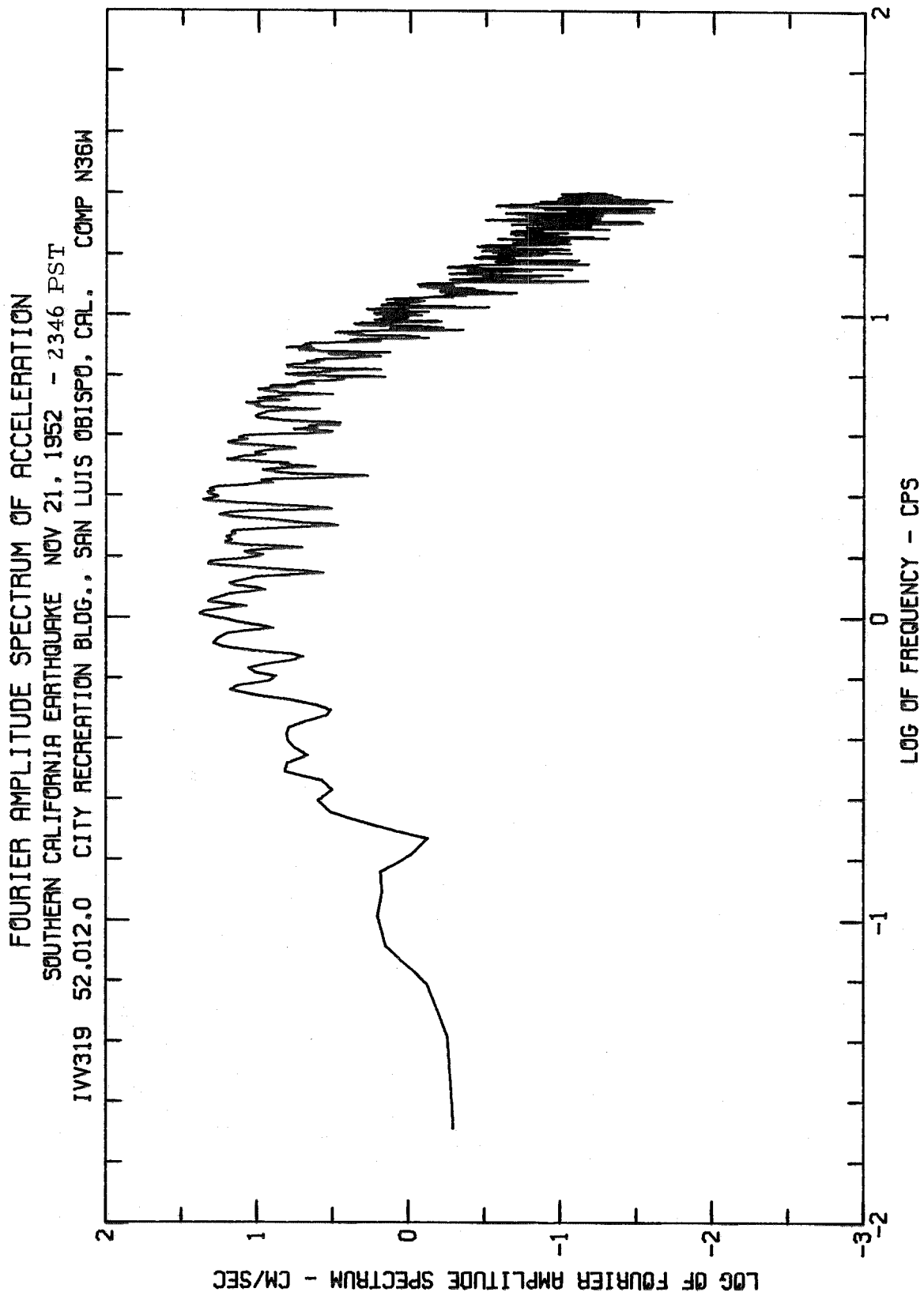


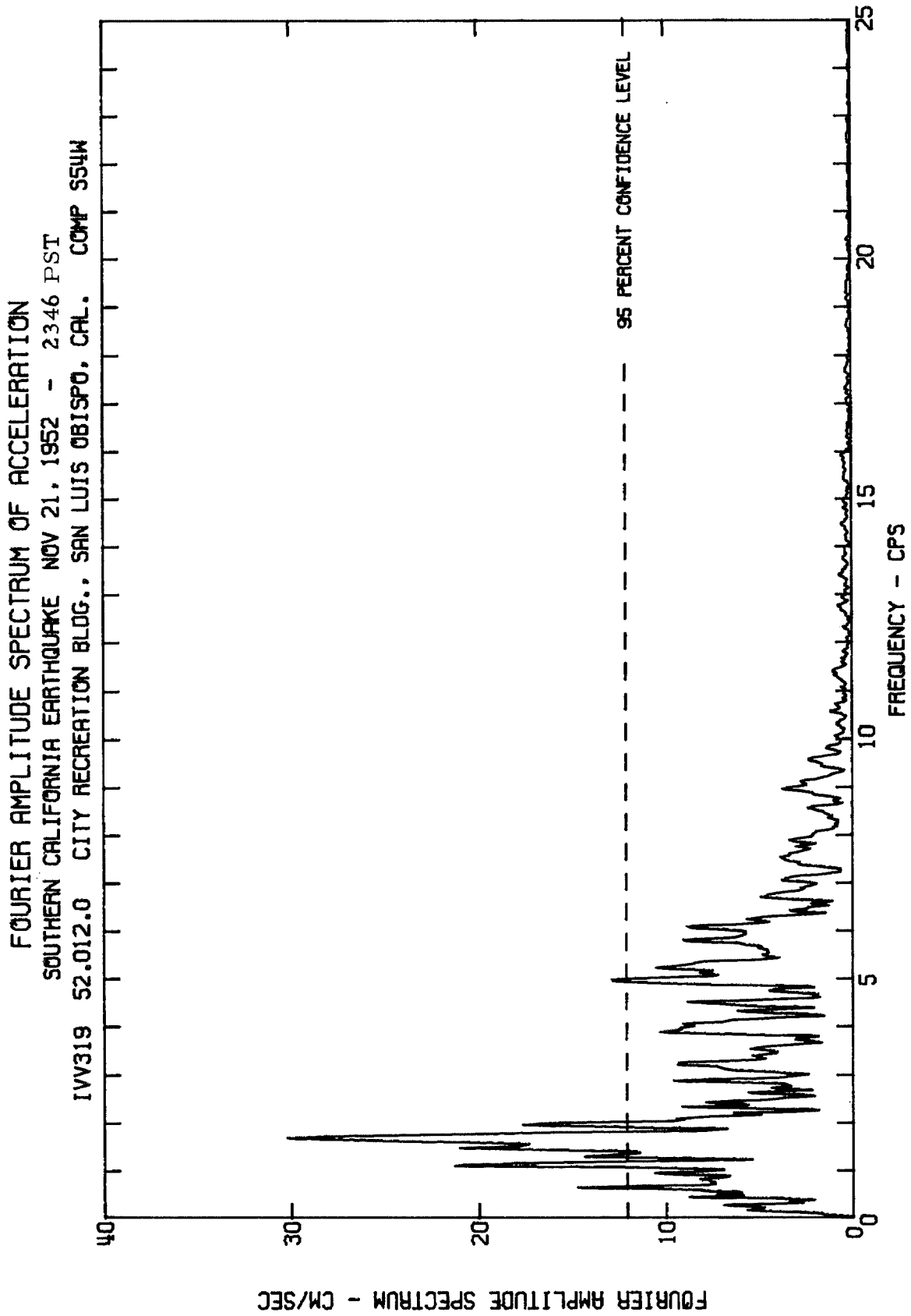




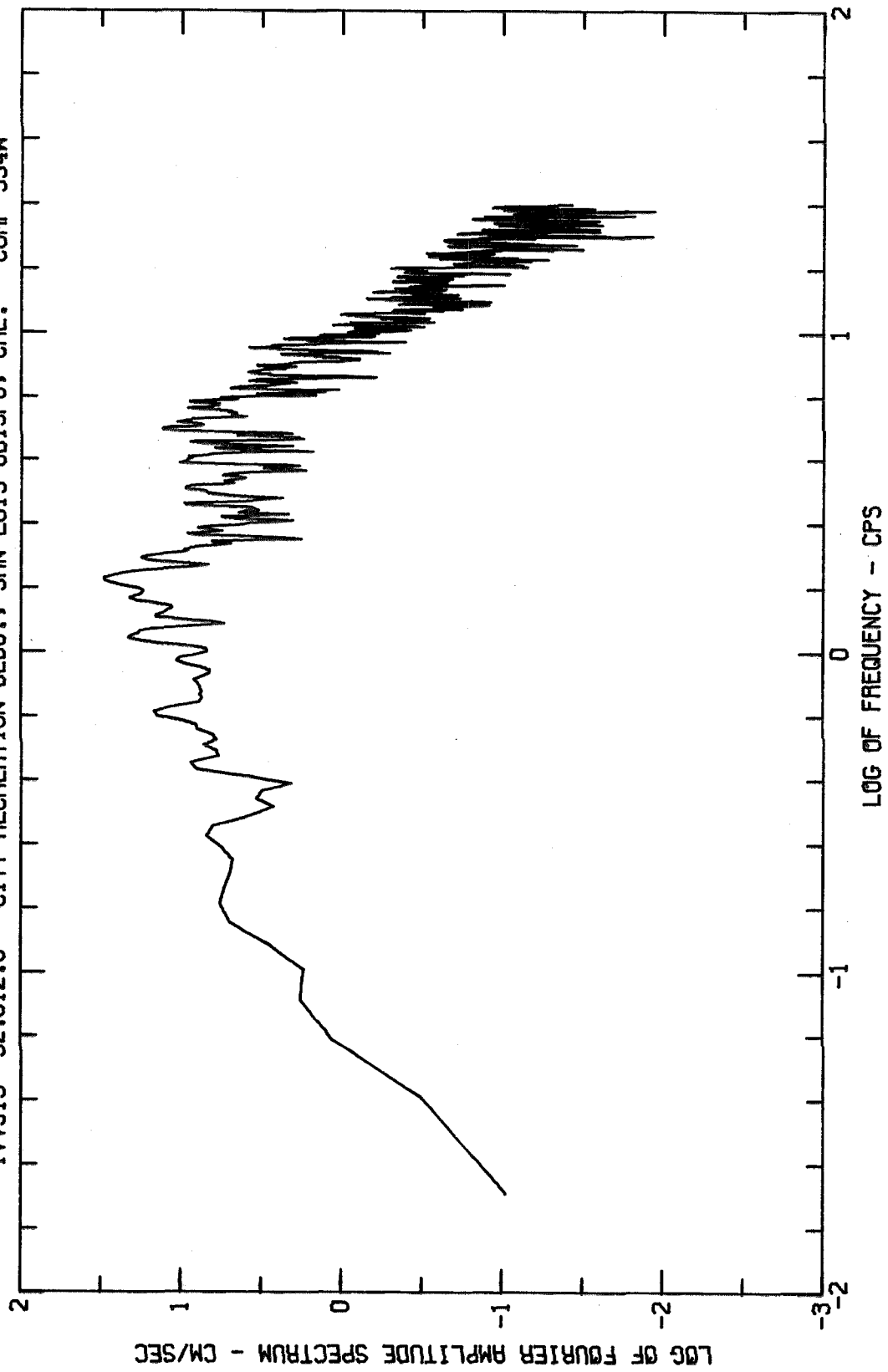
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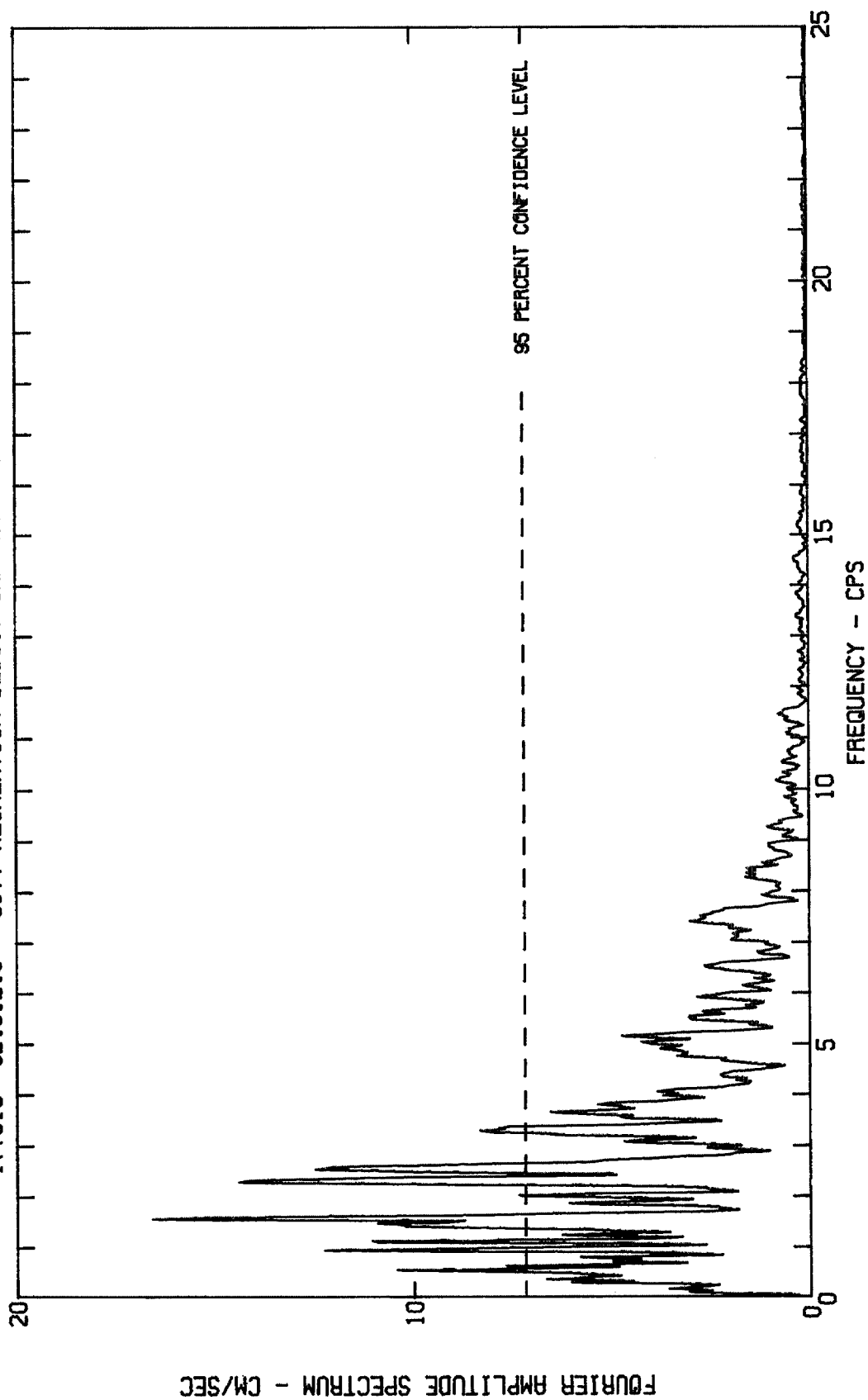




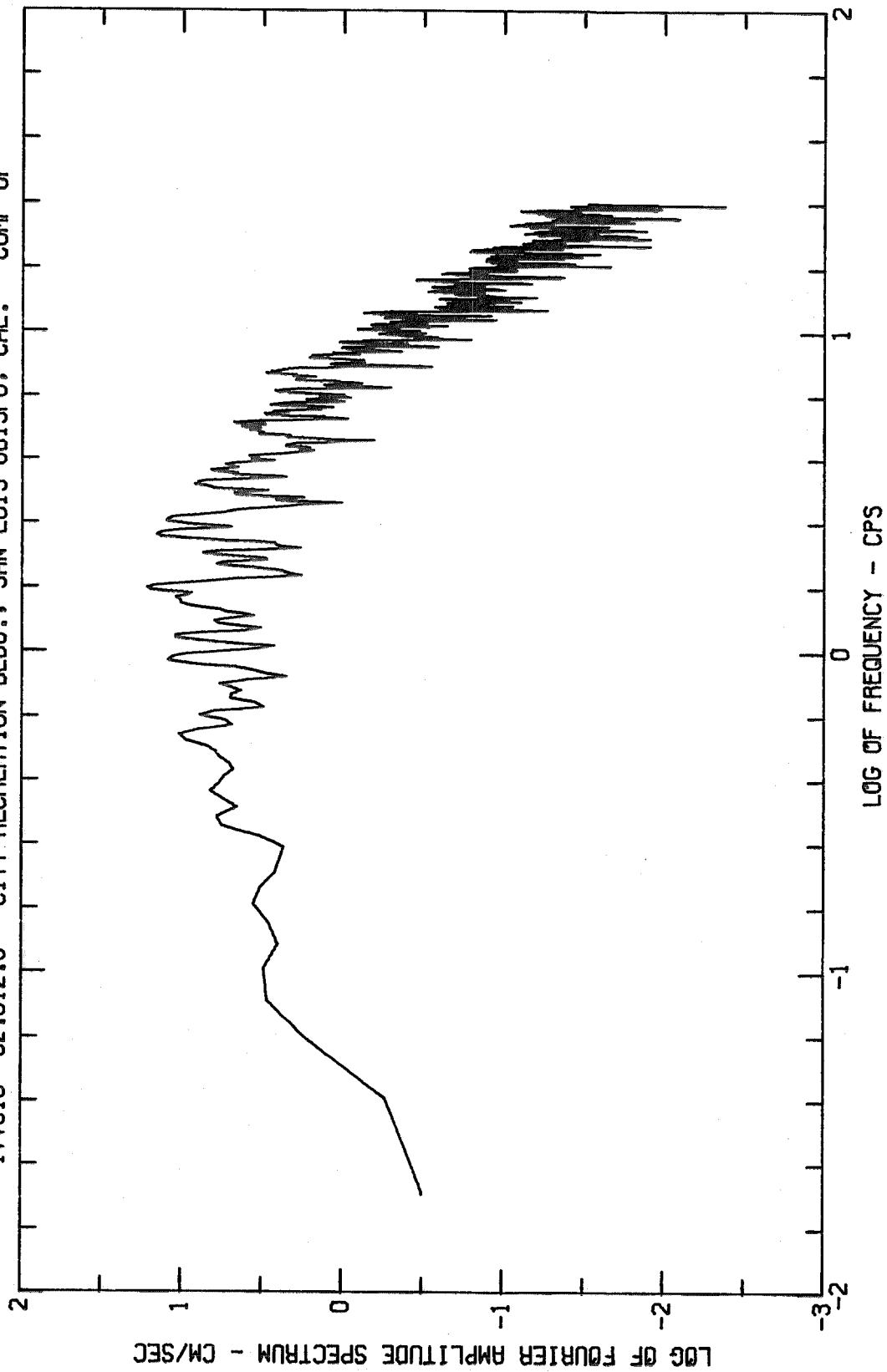
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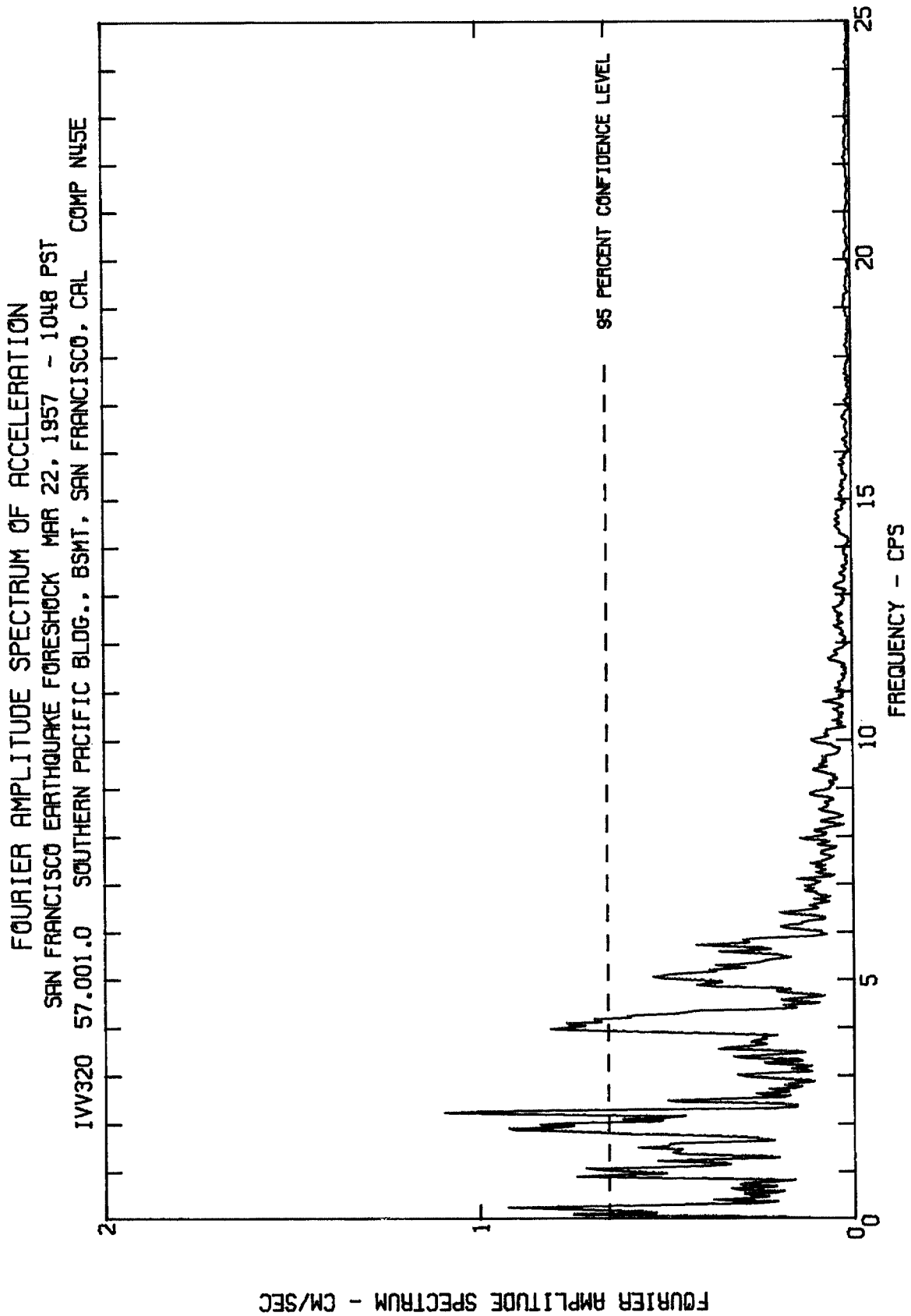


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
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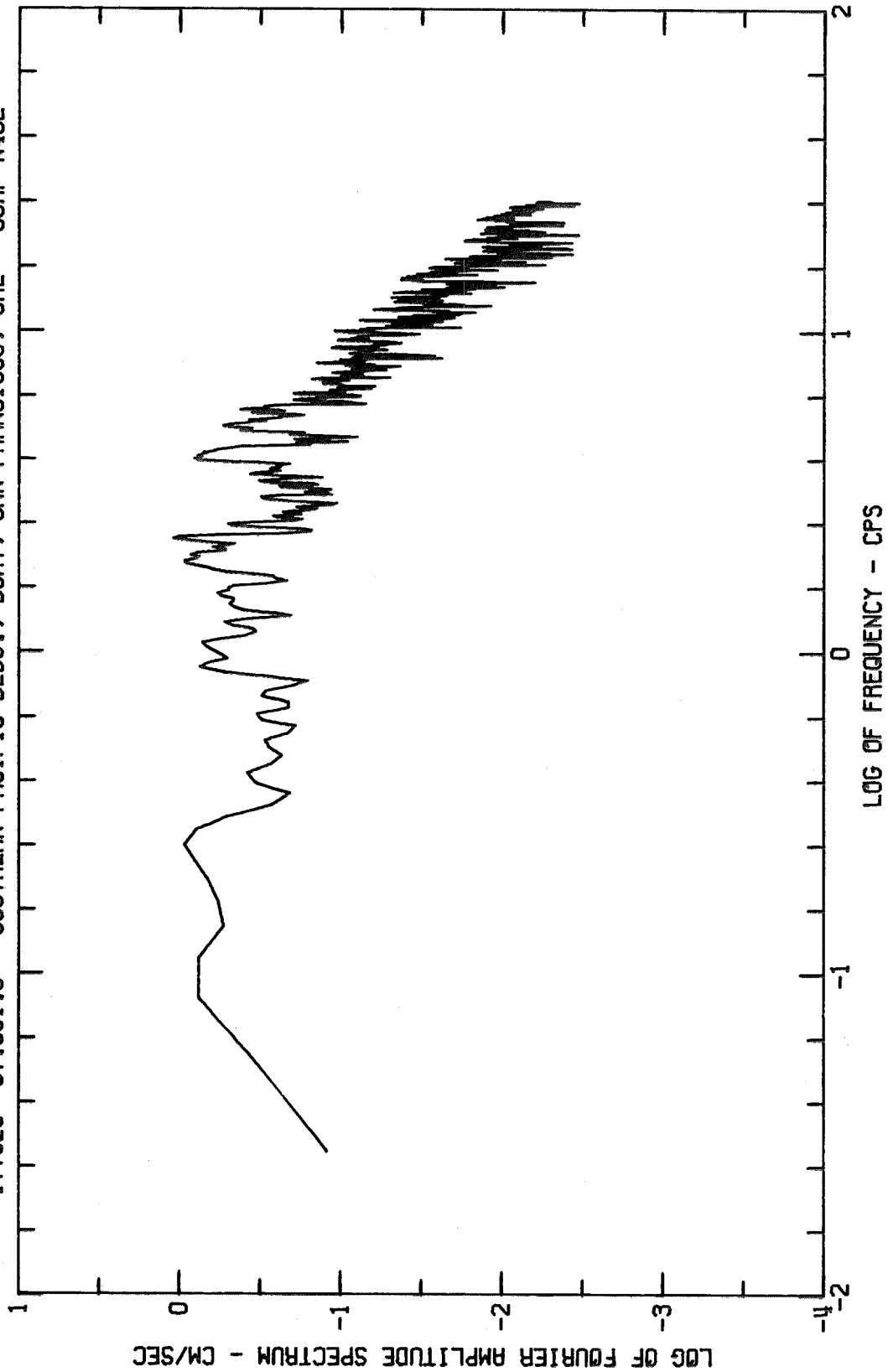


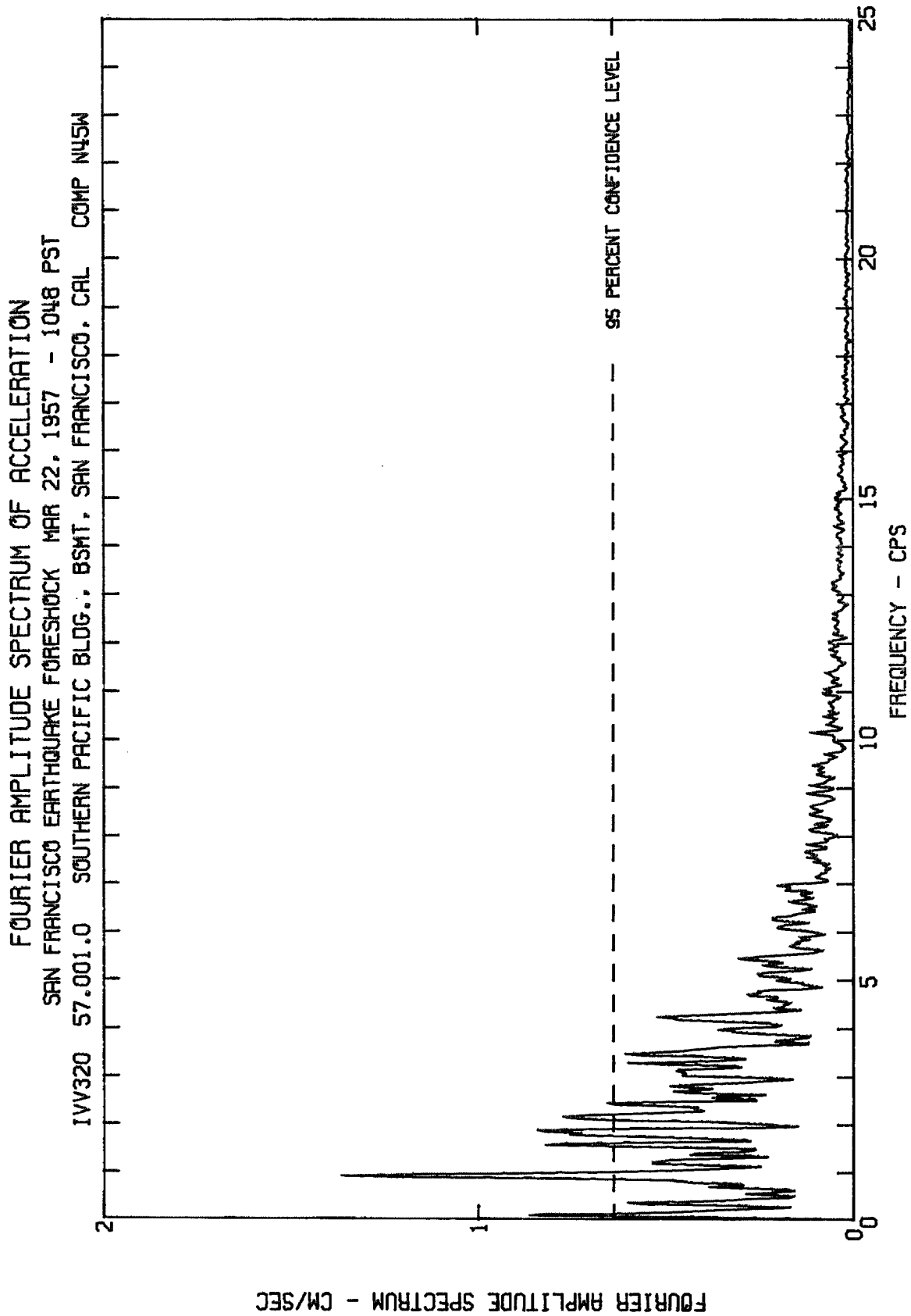
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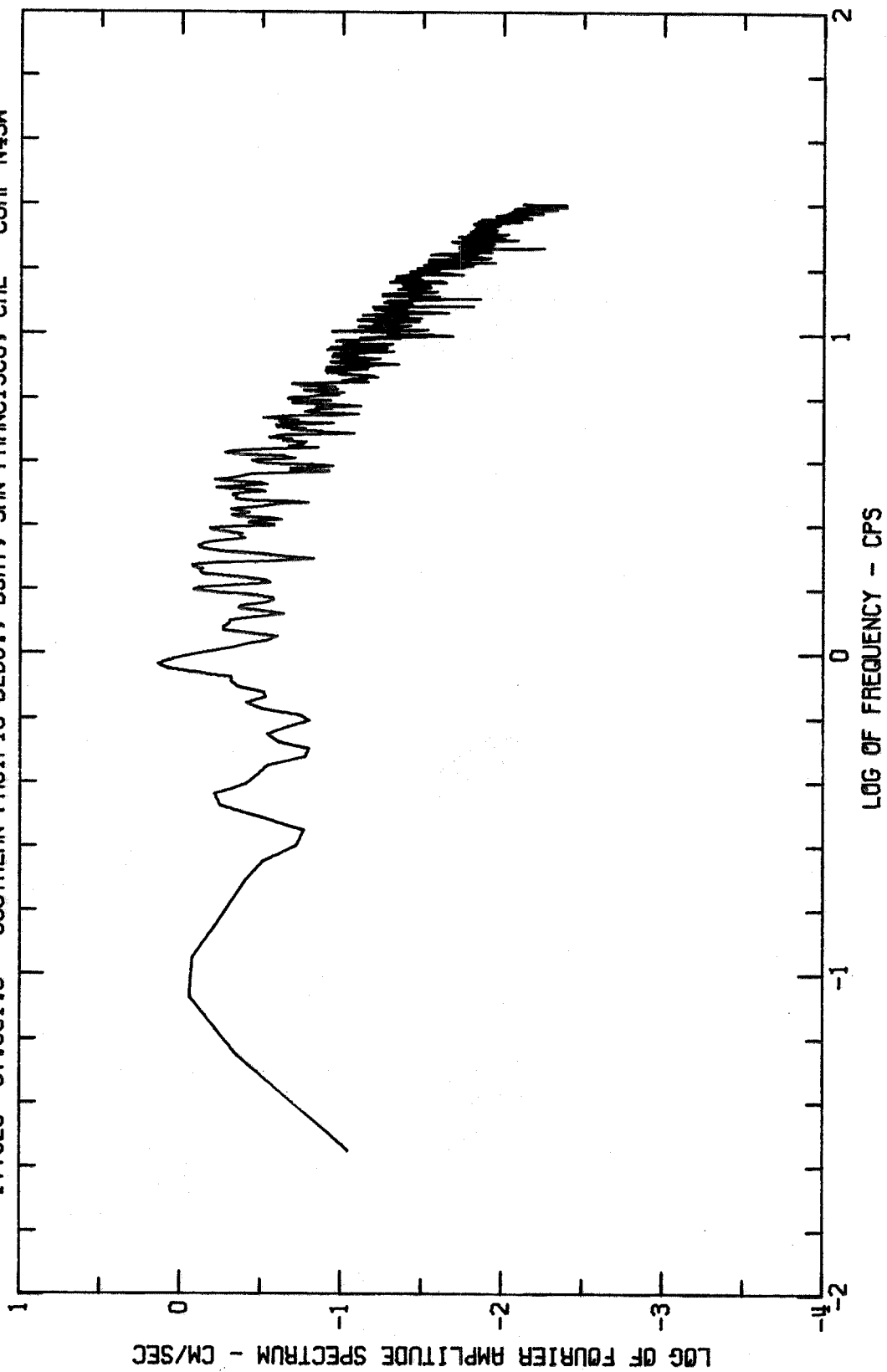


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
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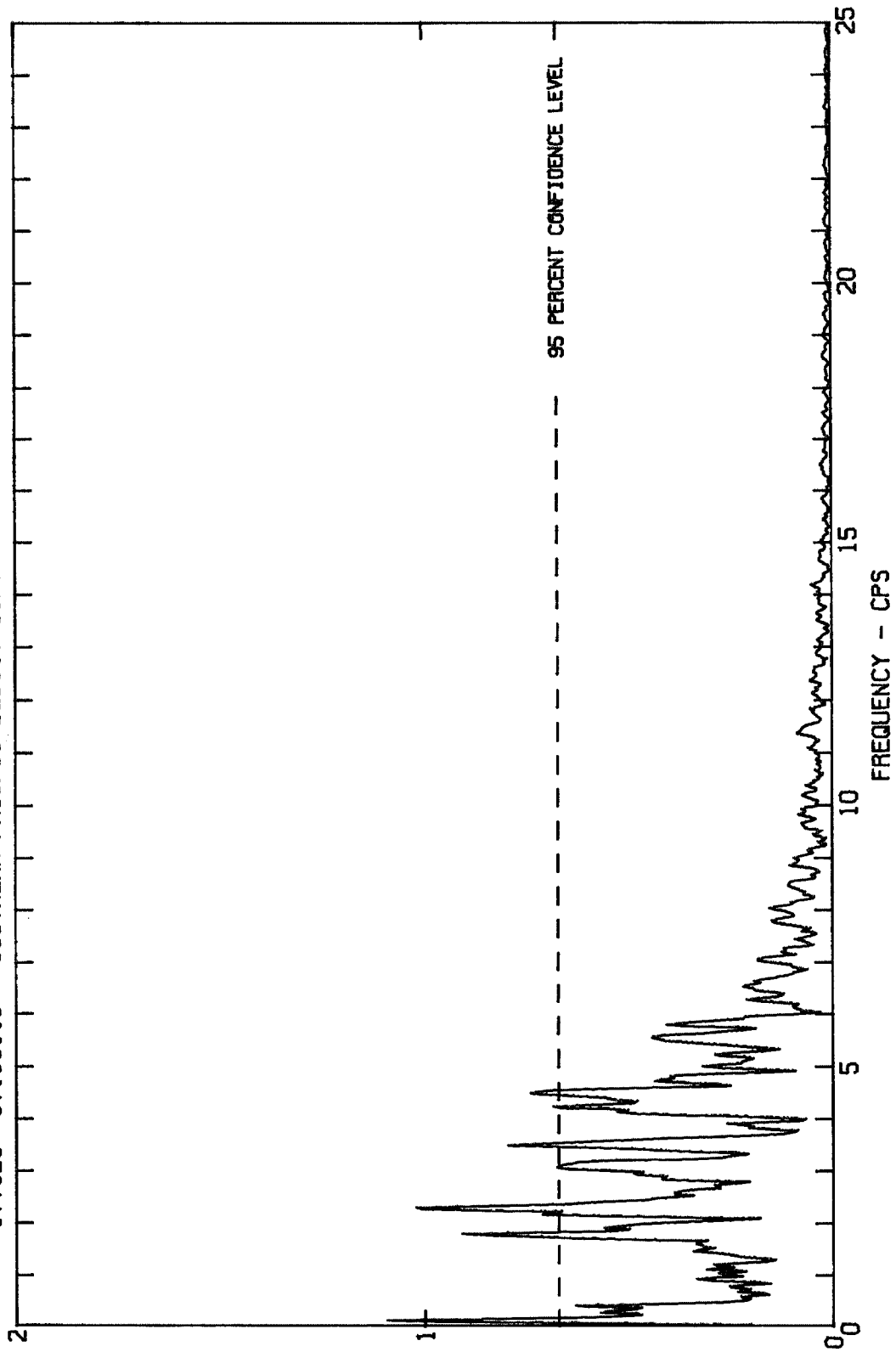




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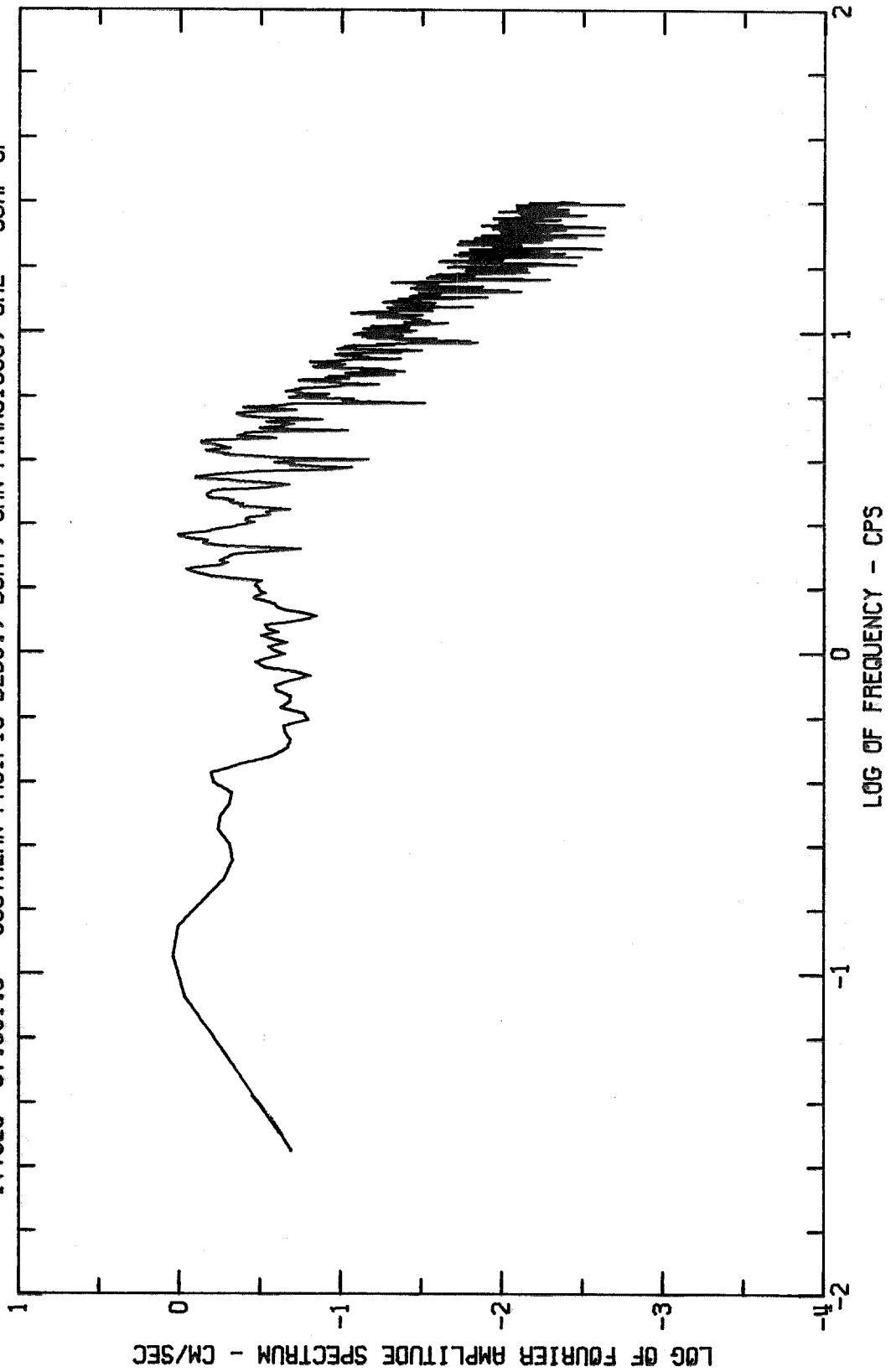


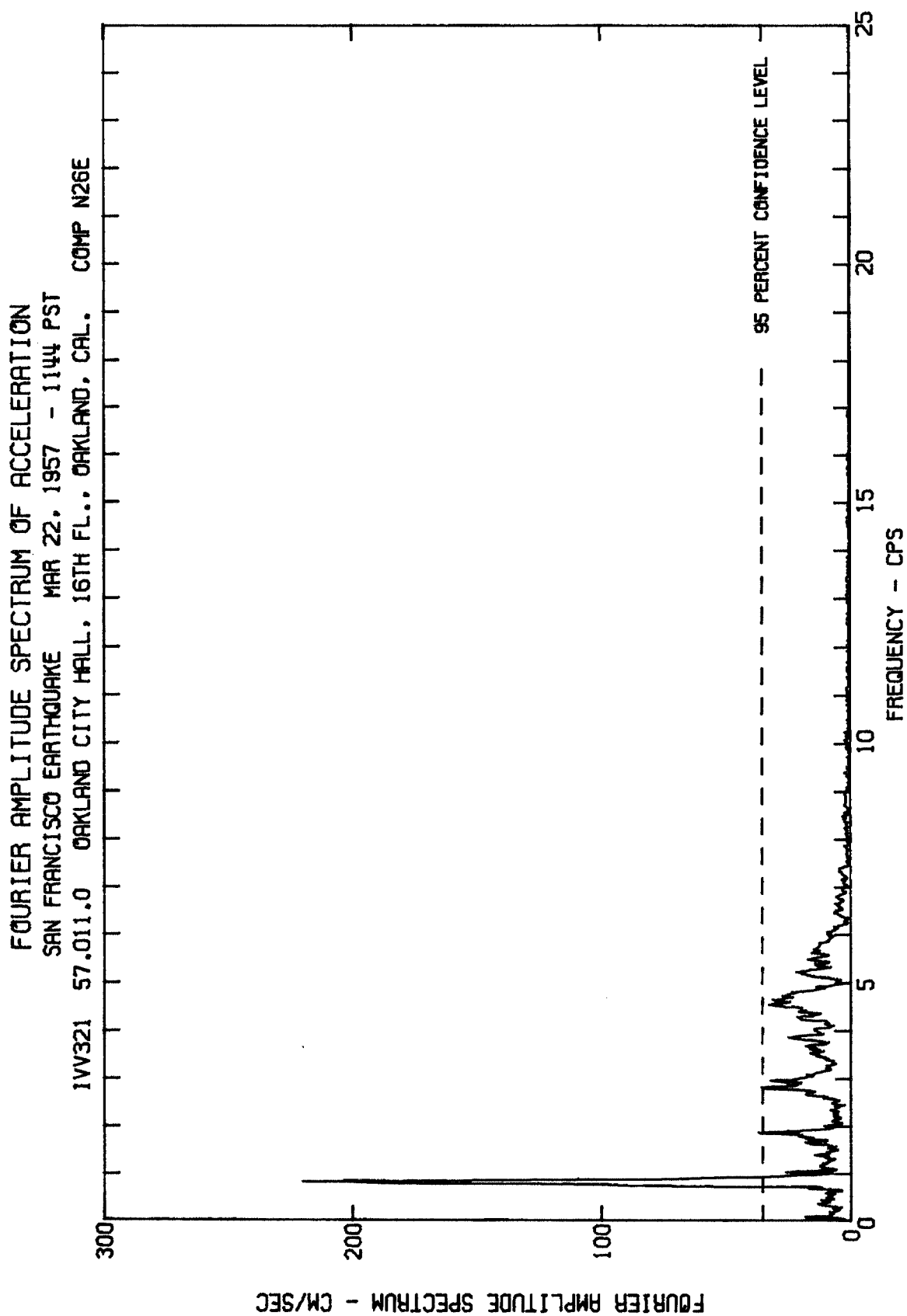
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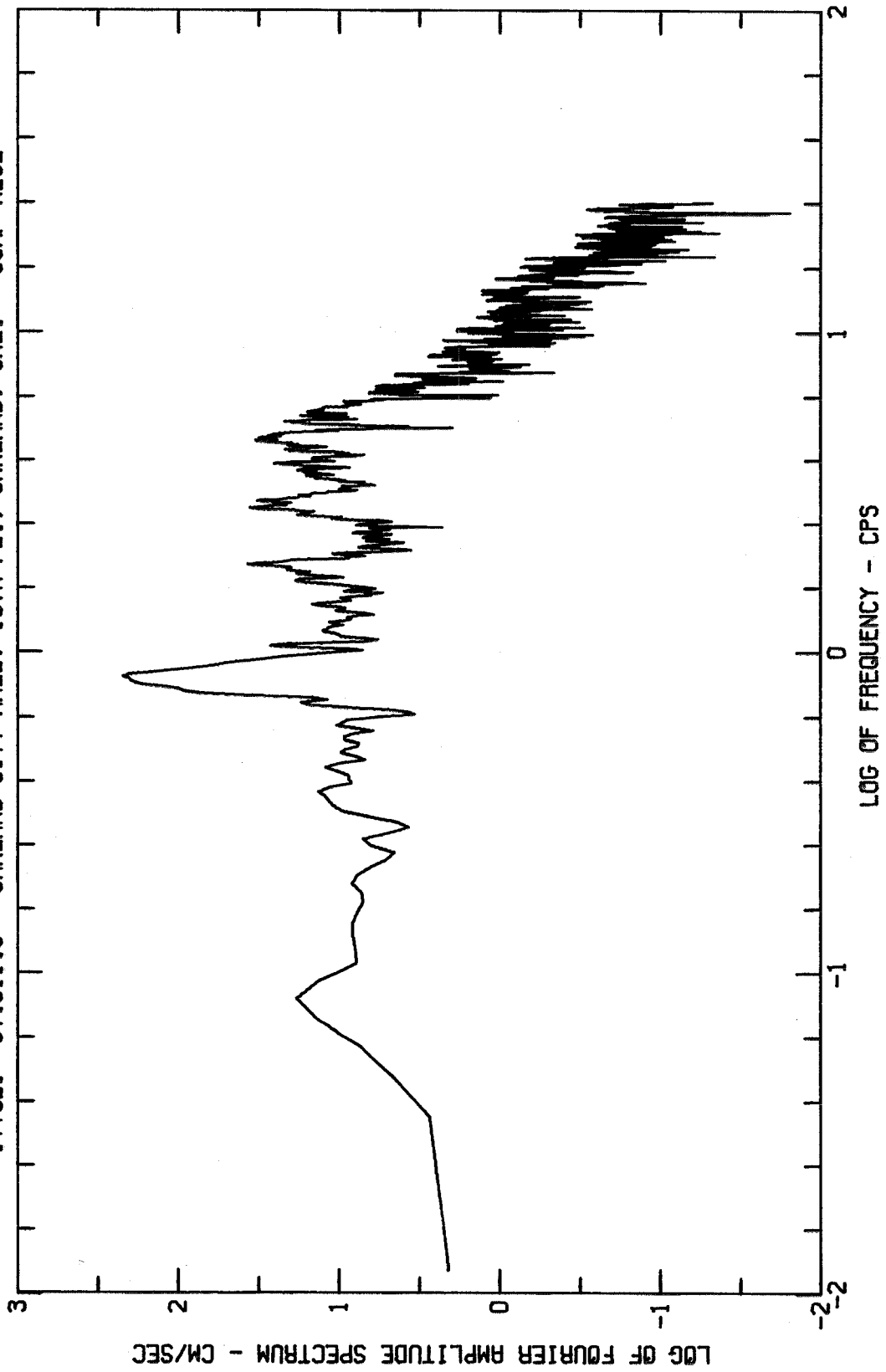
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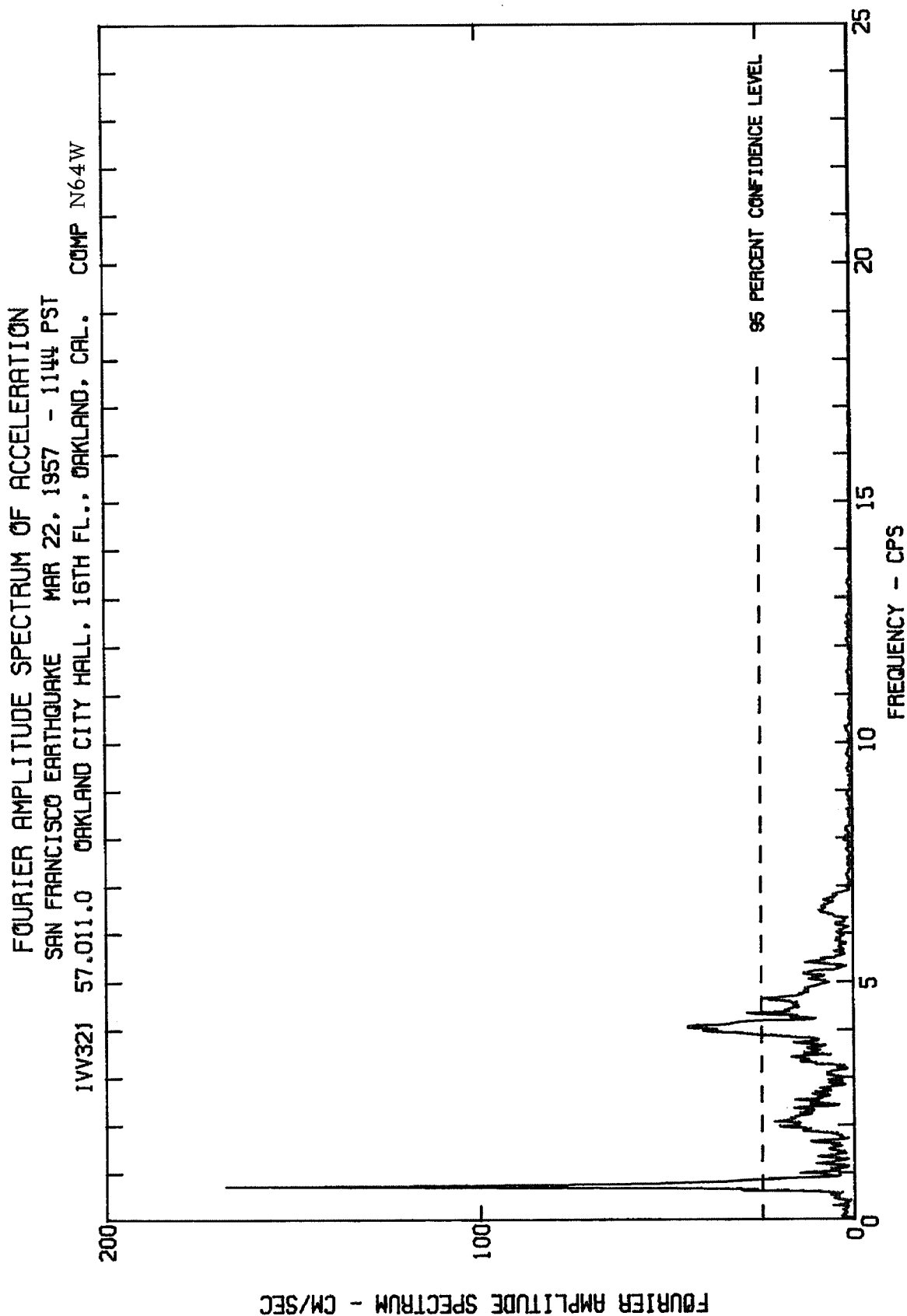
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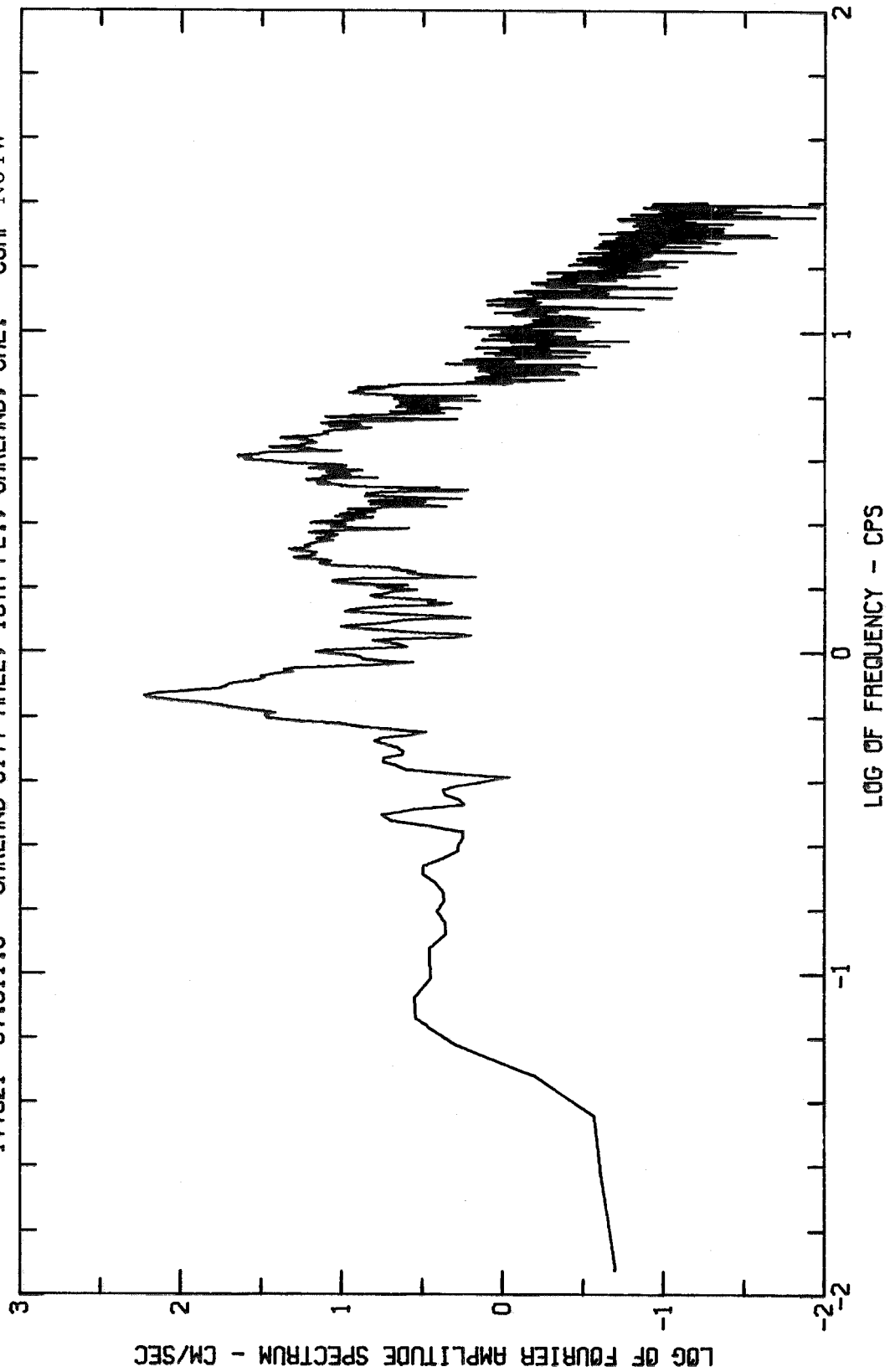


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
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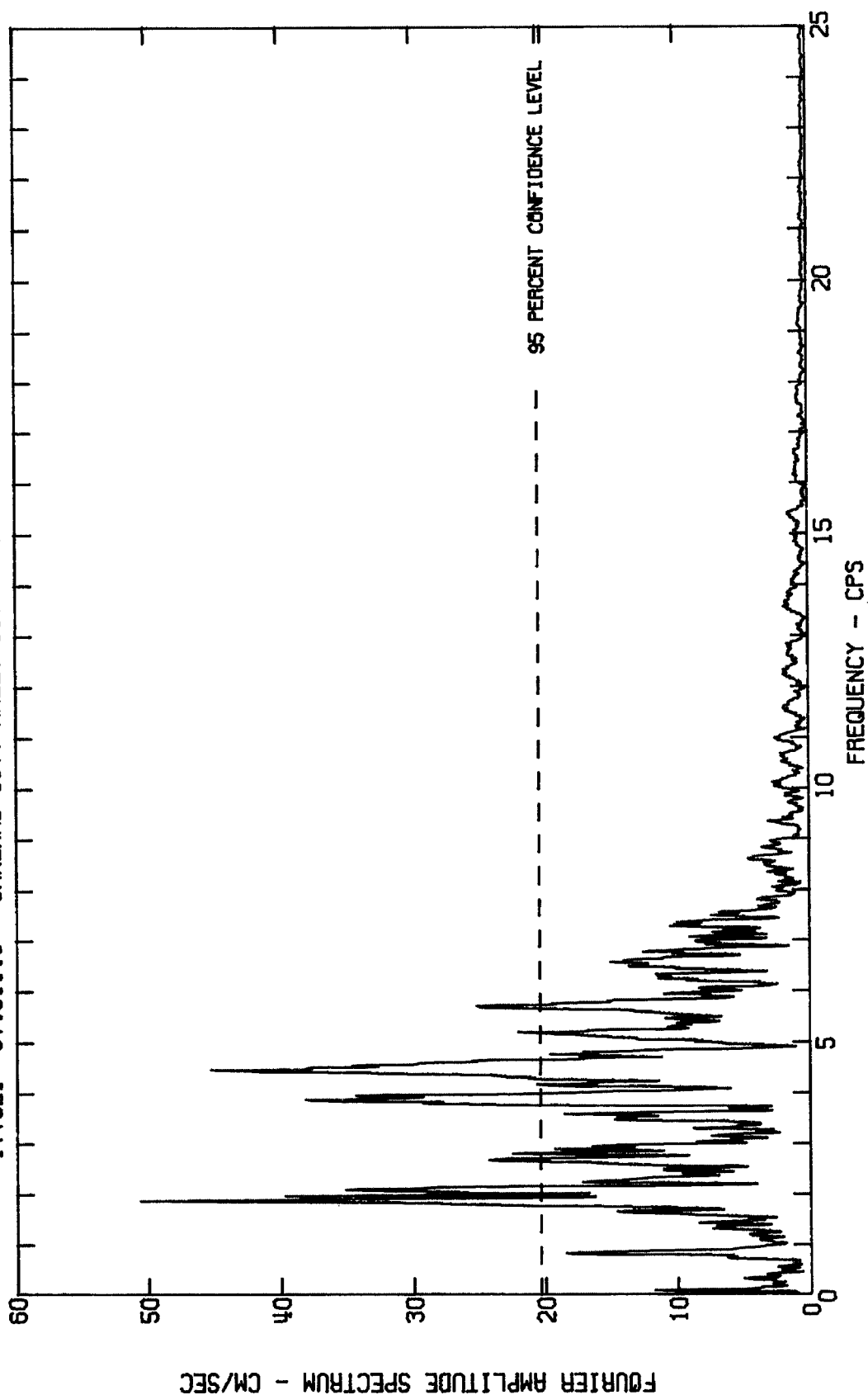




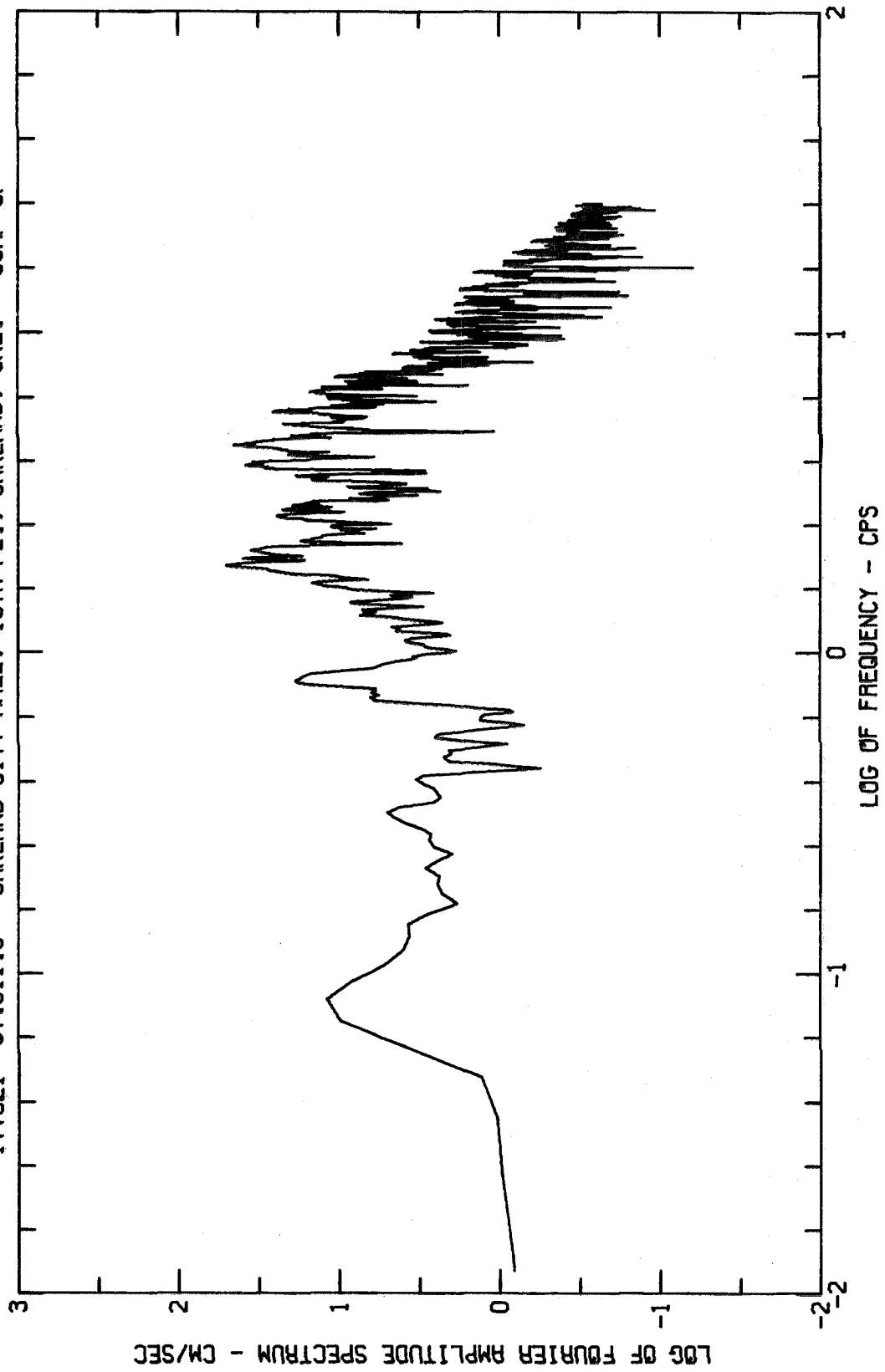
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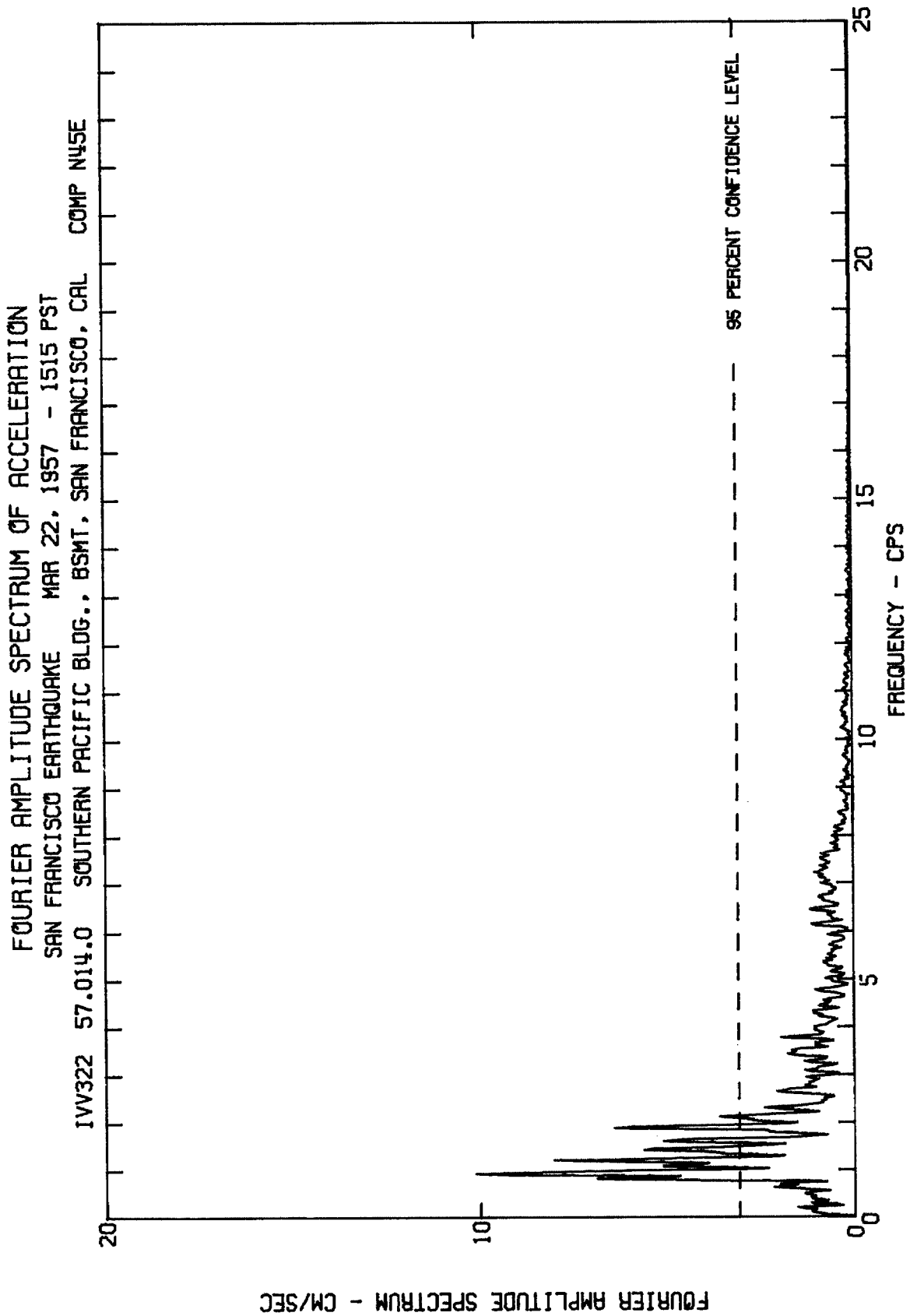


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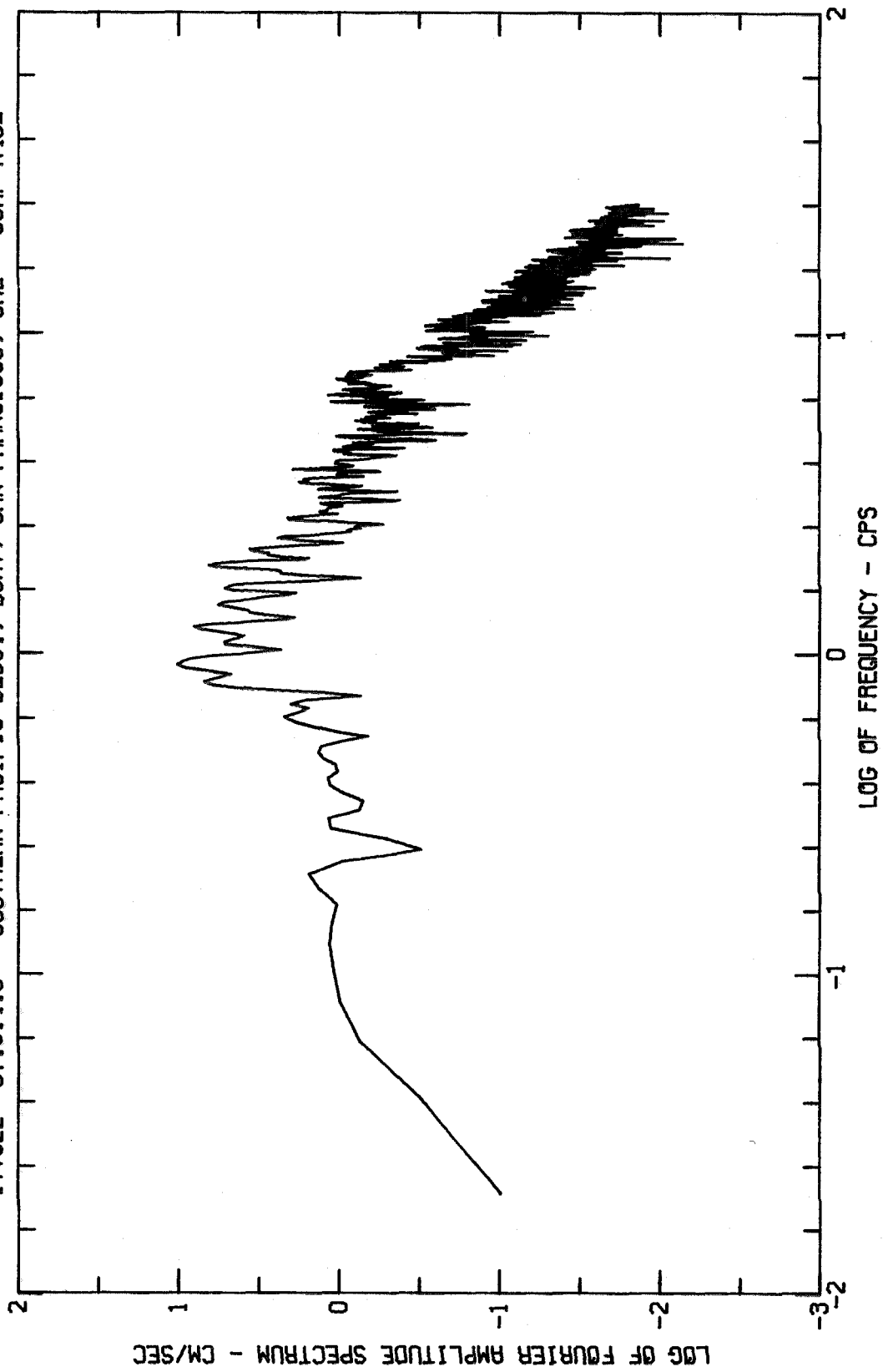


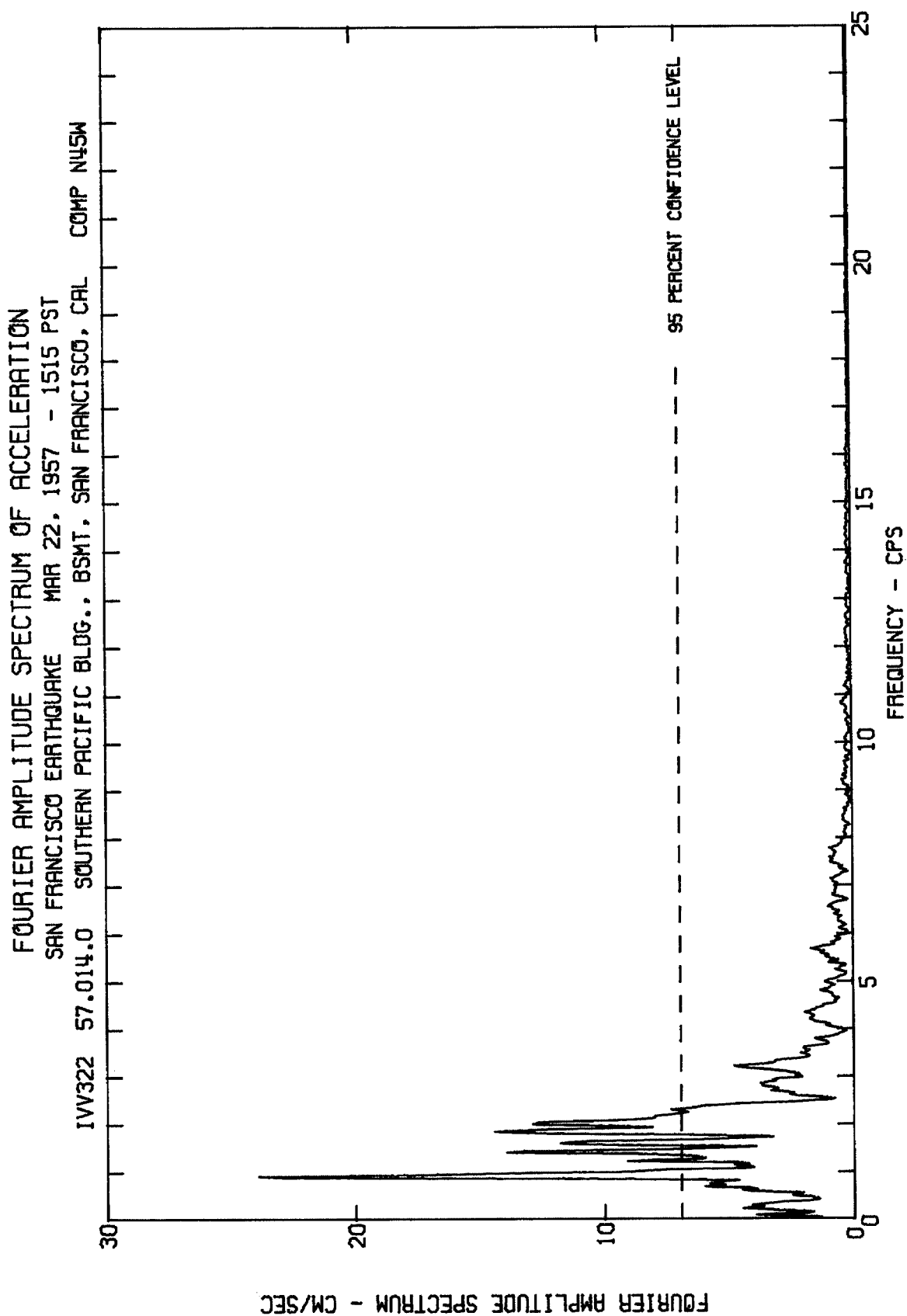
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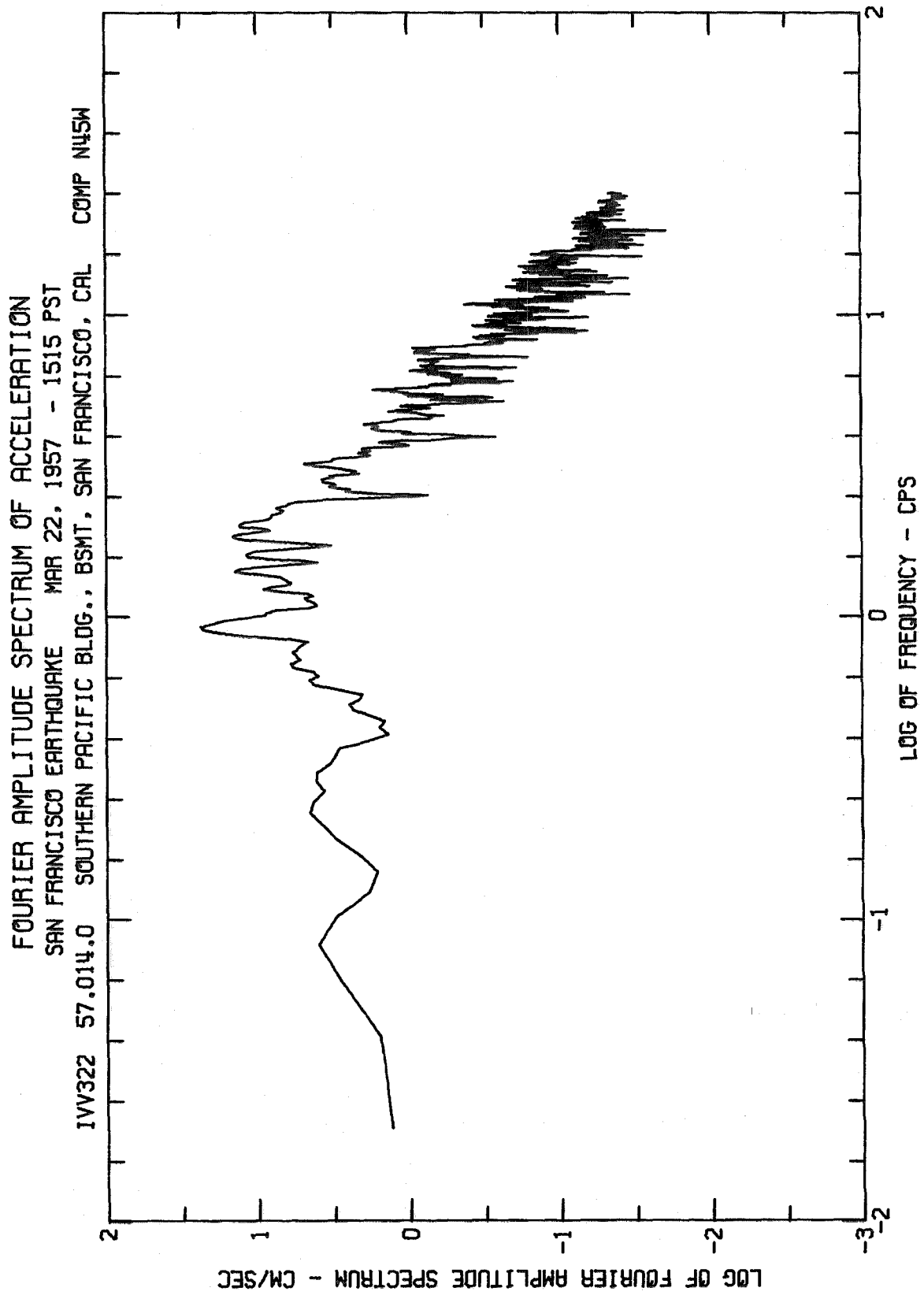


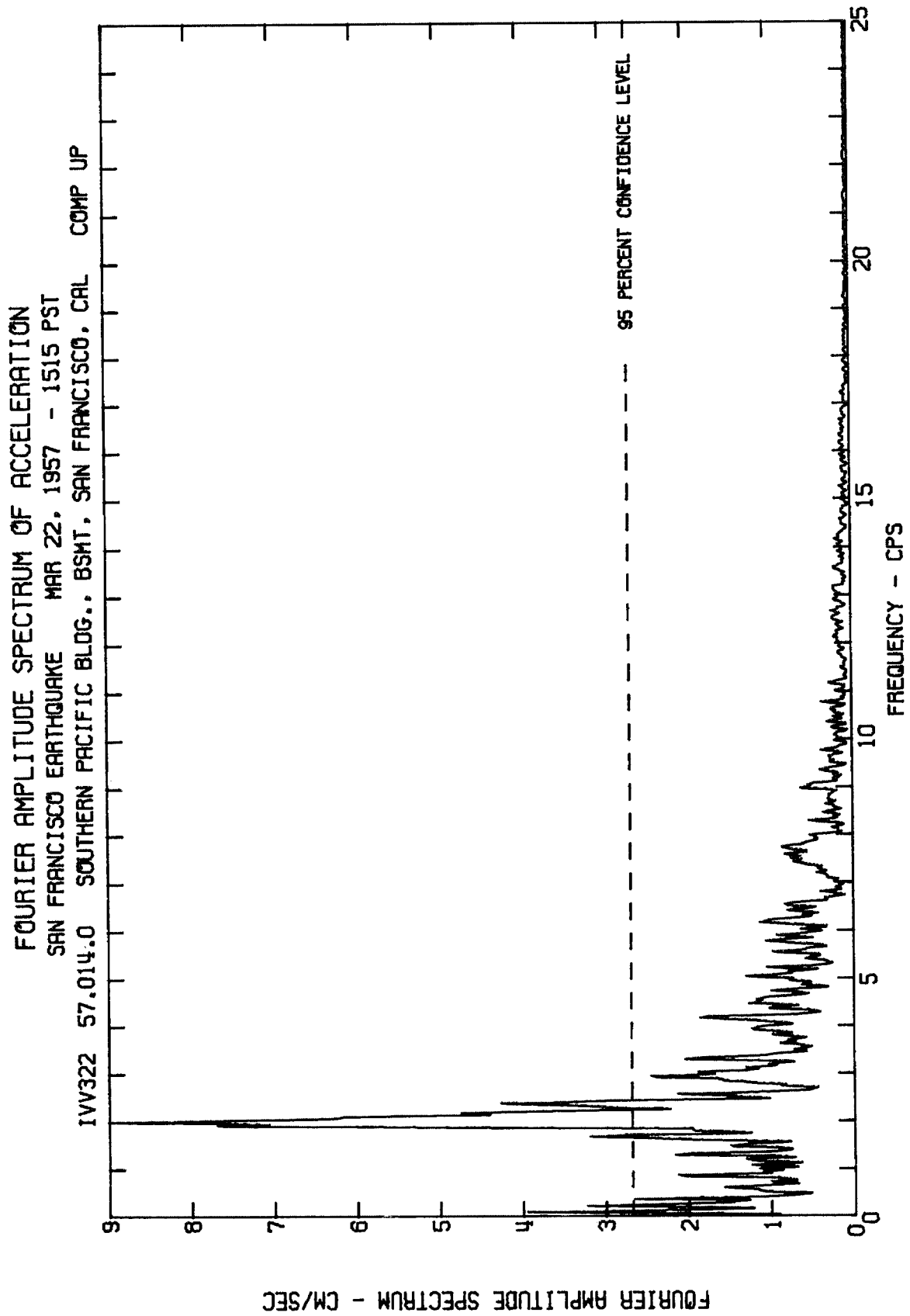


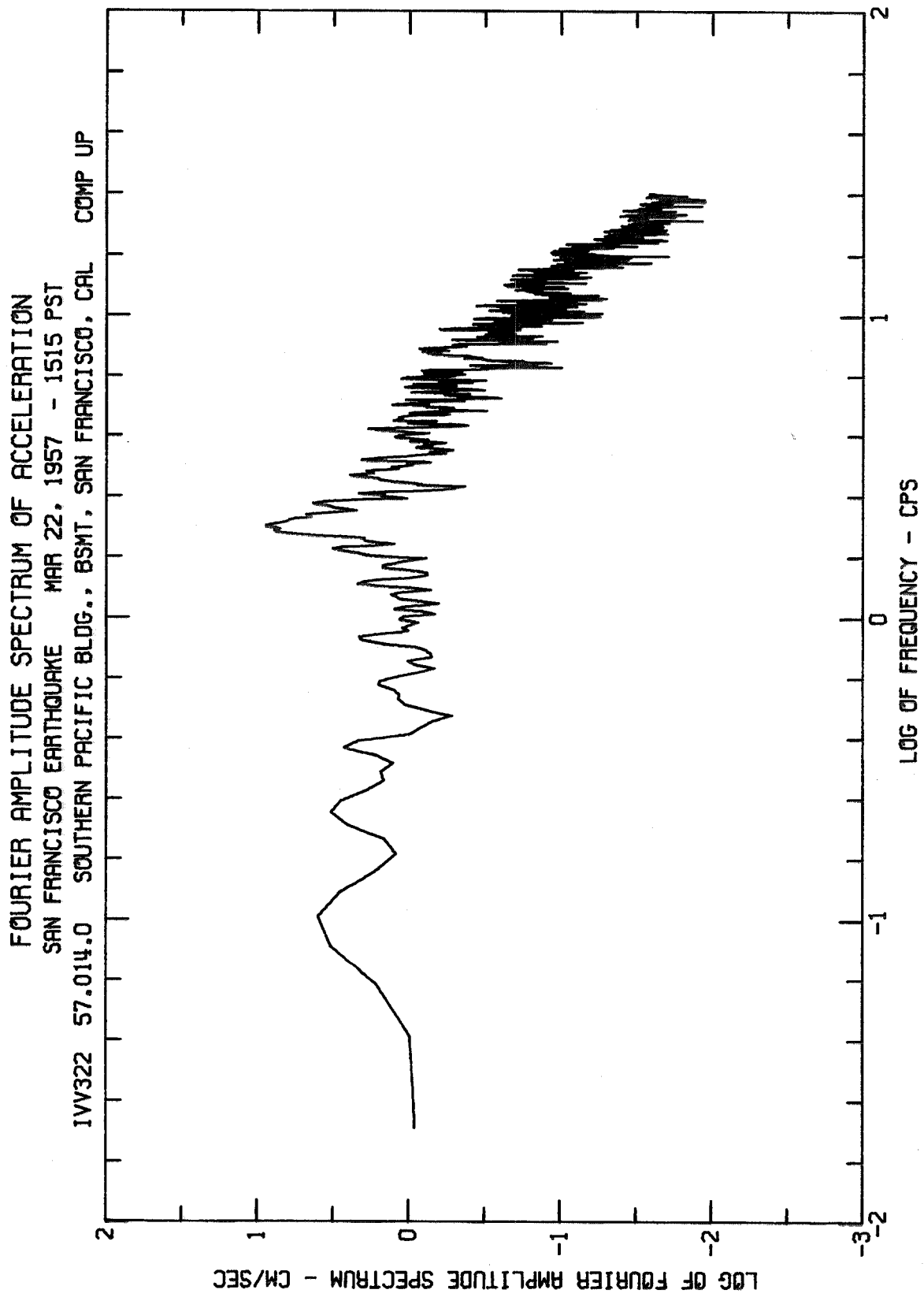
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IWV322 57.014.0 SOUTHERN PACIFIC BLDG., BSMT, SAN FRANCISCO, CAL COMP N45E



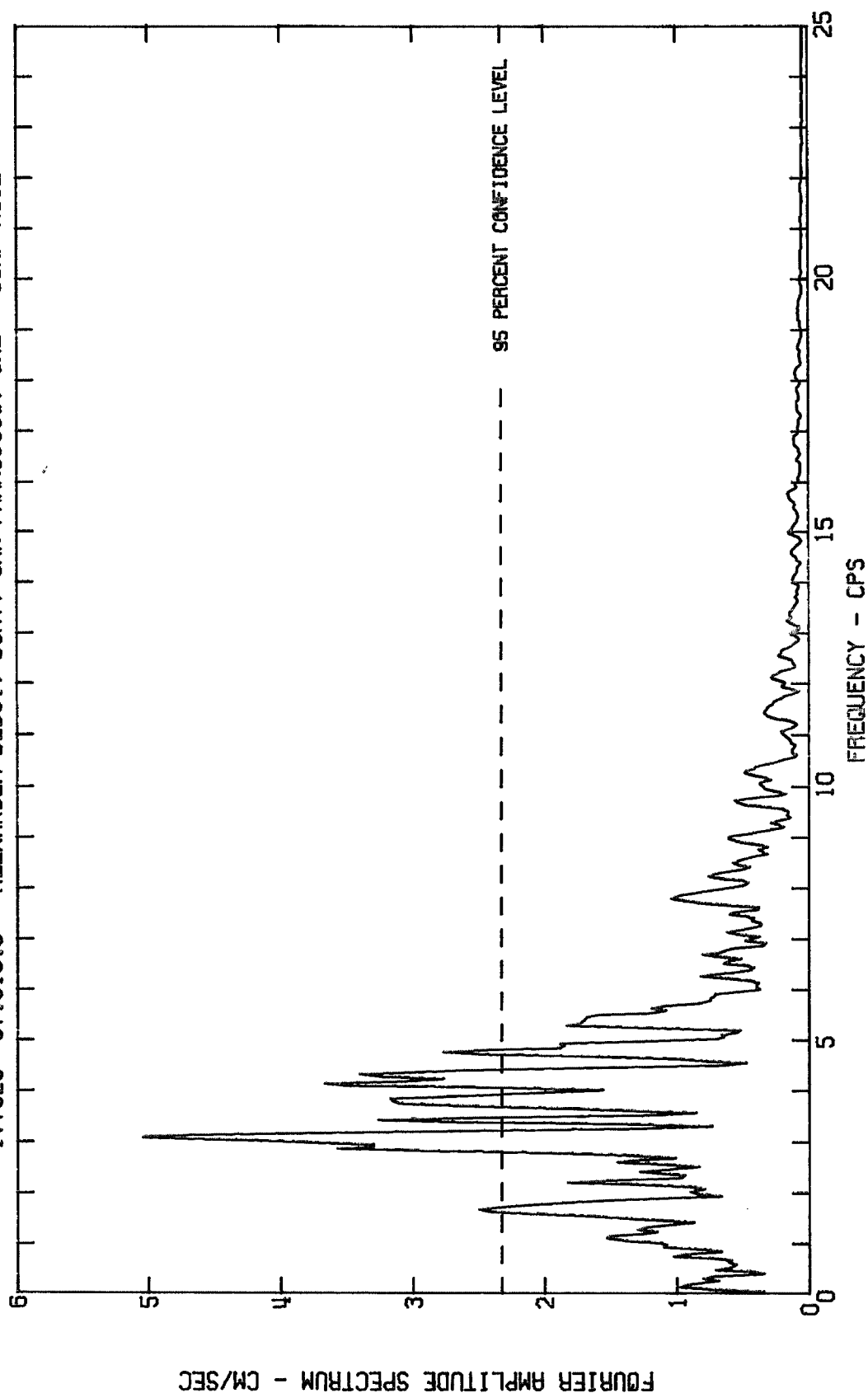




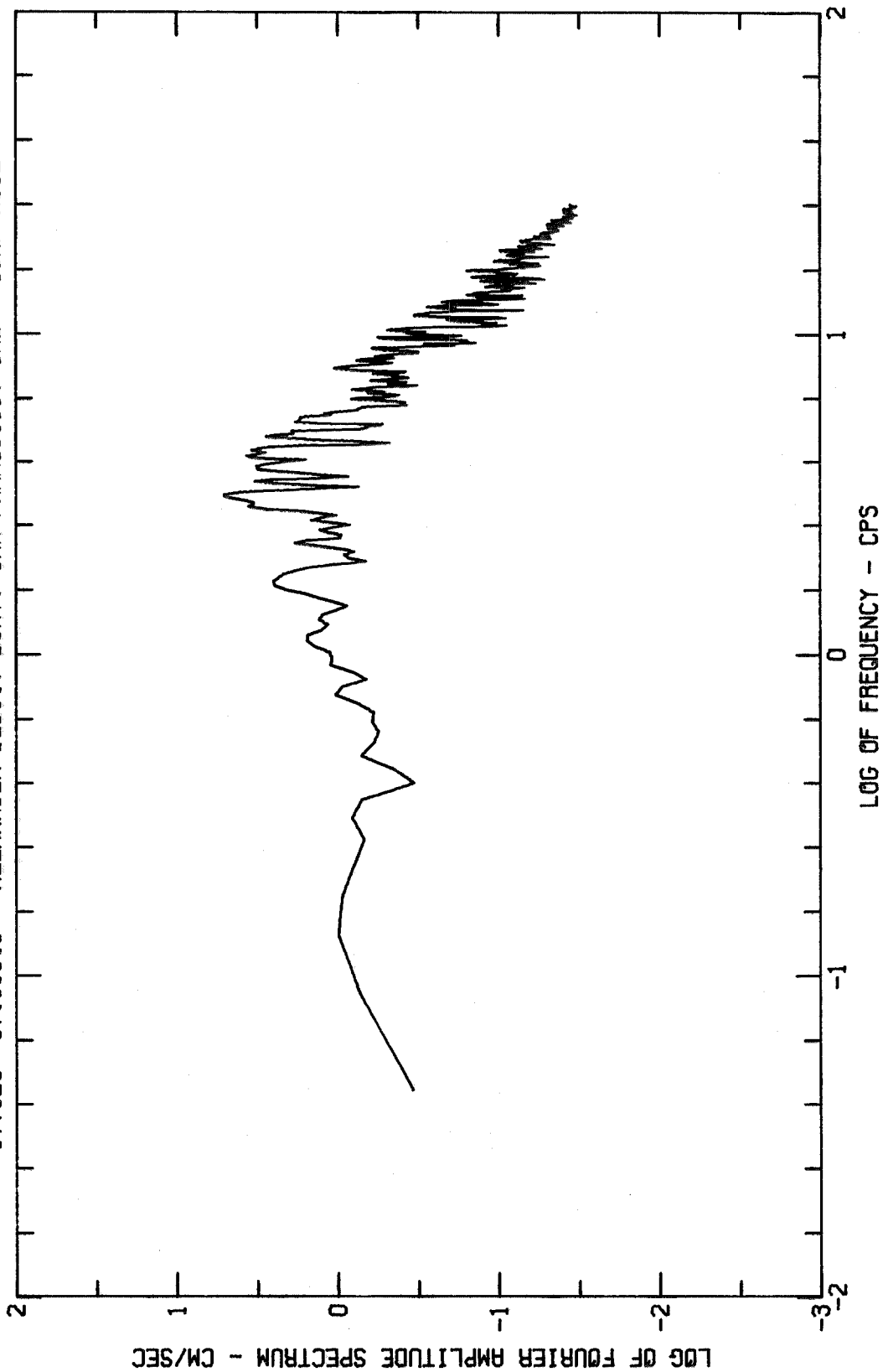




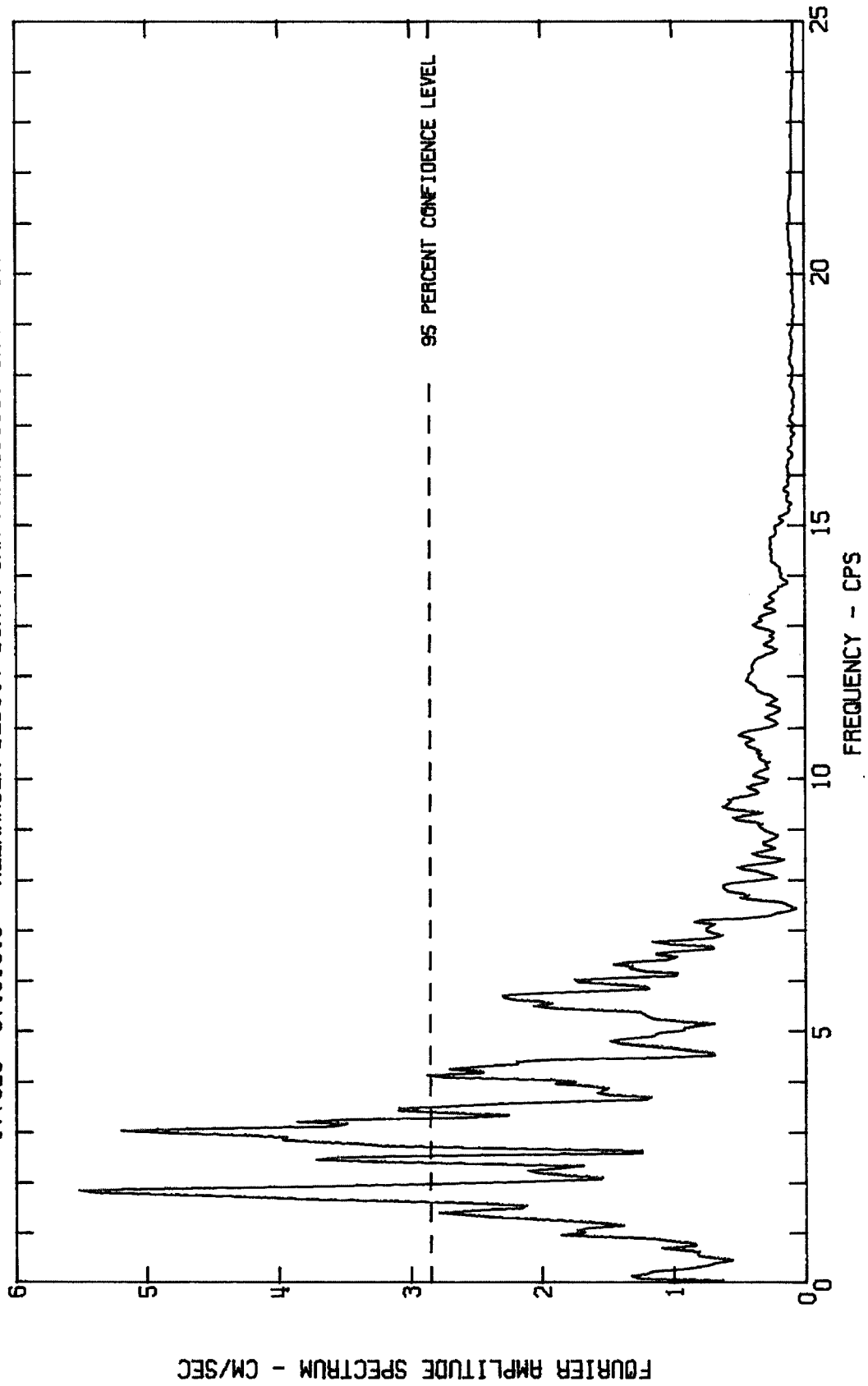
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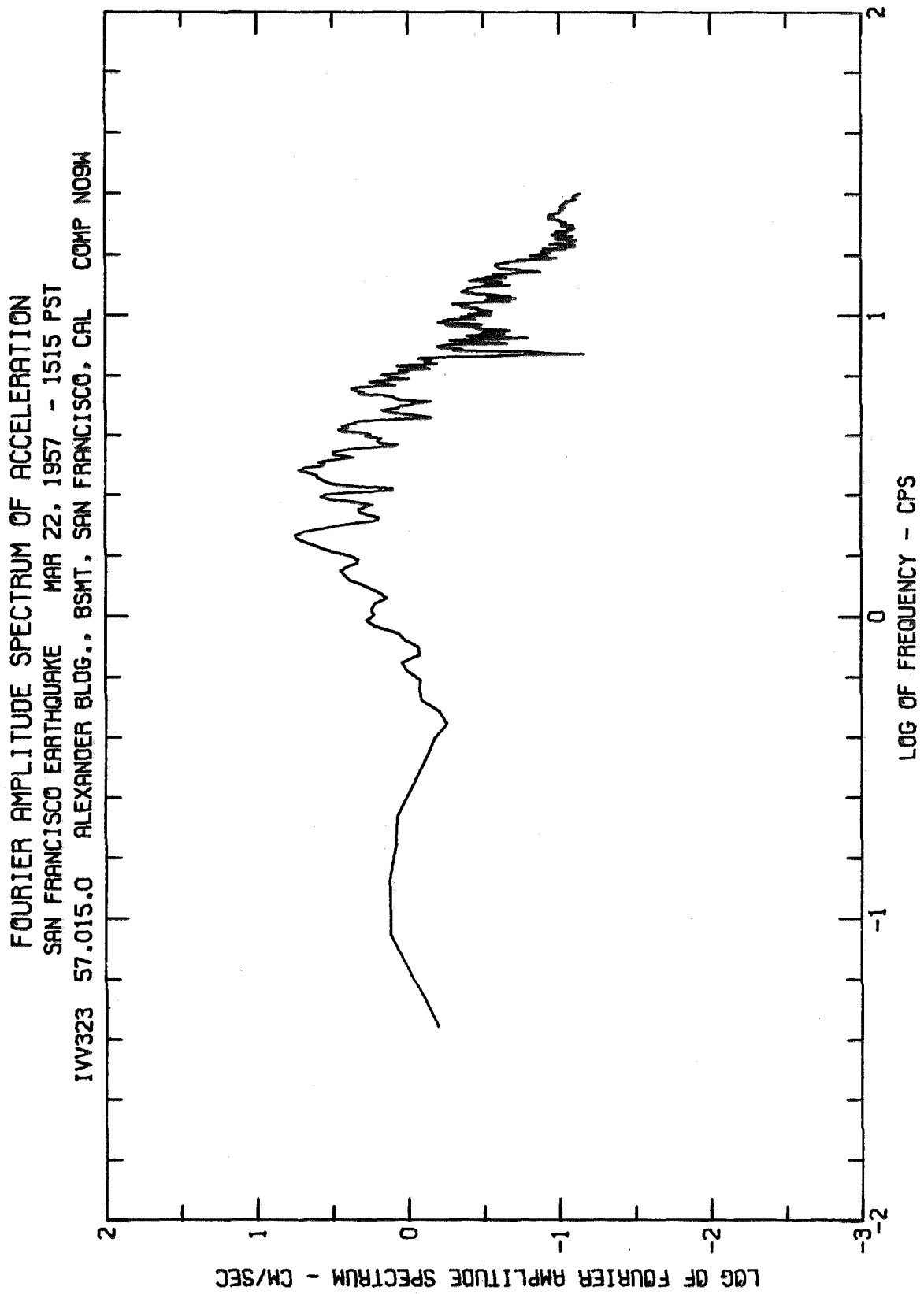


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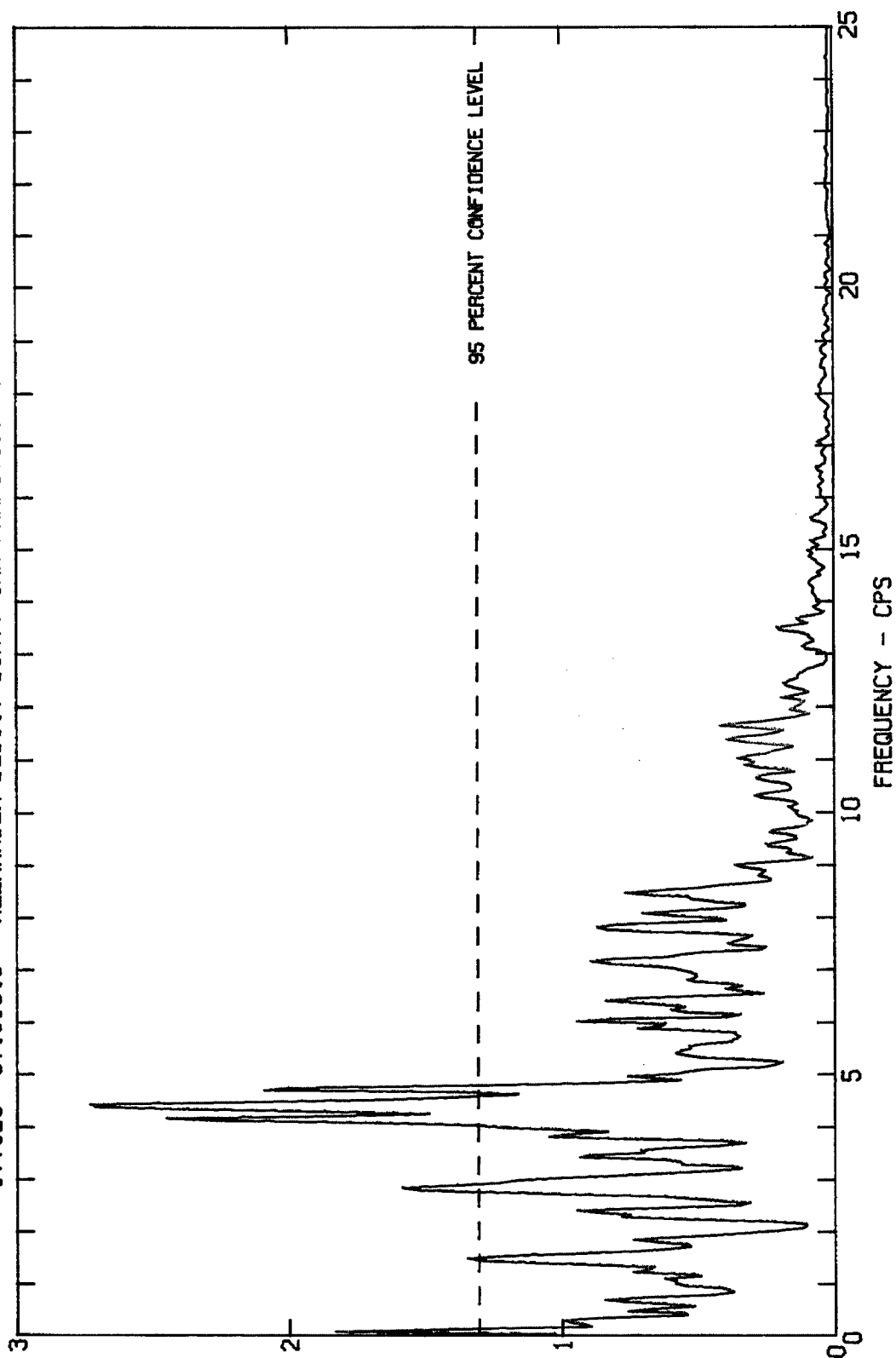


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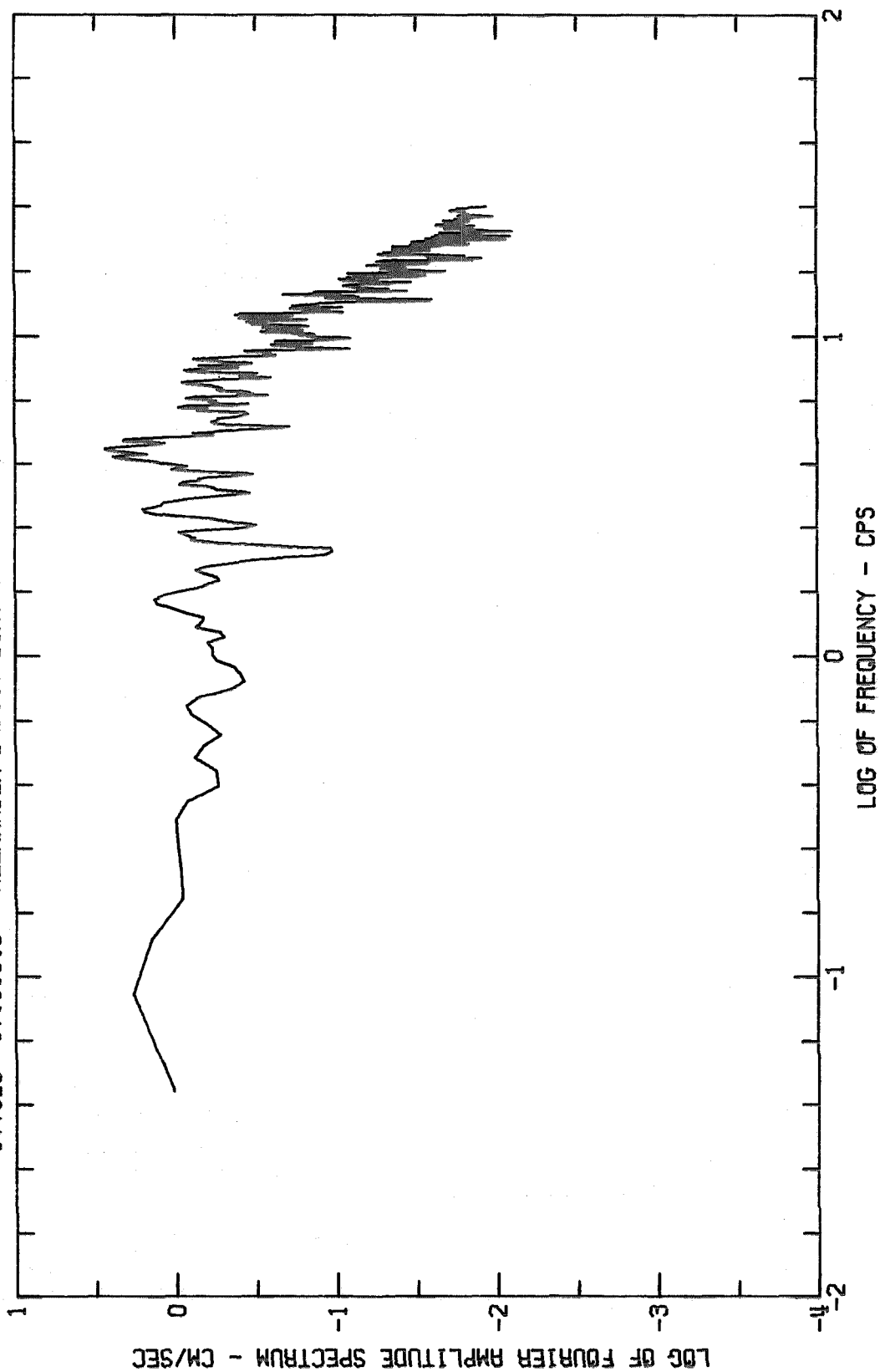


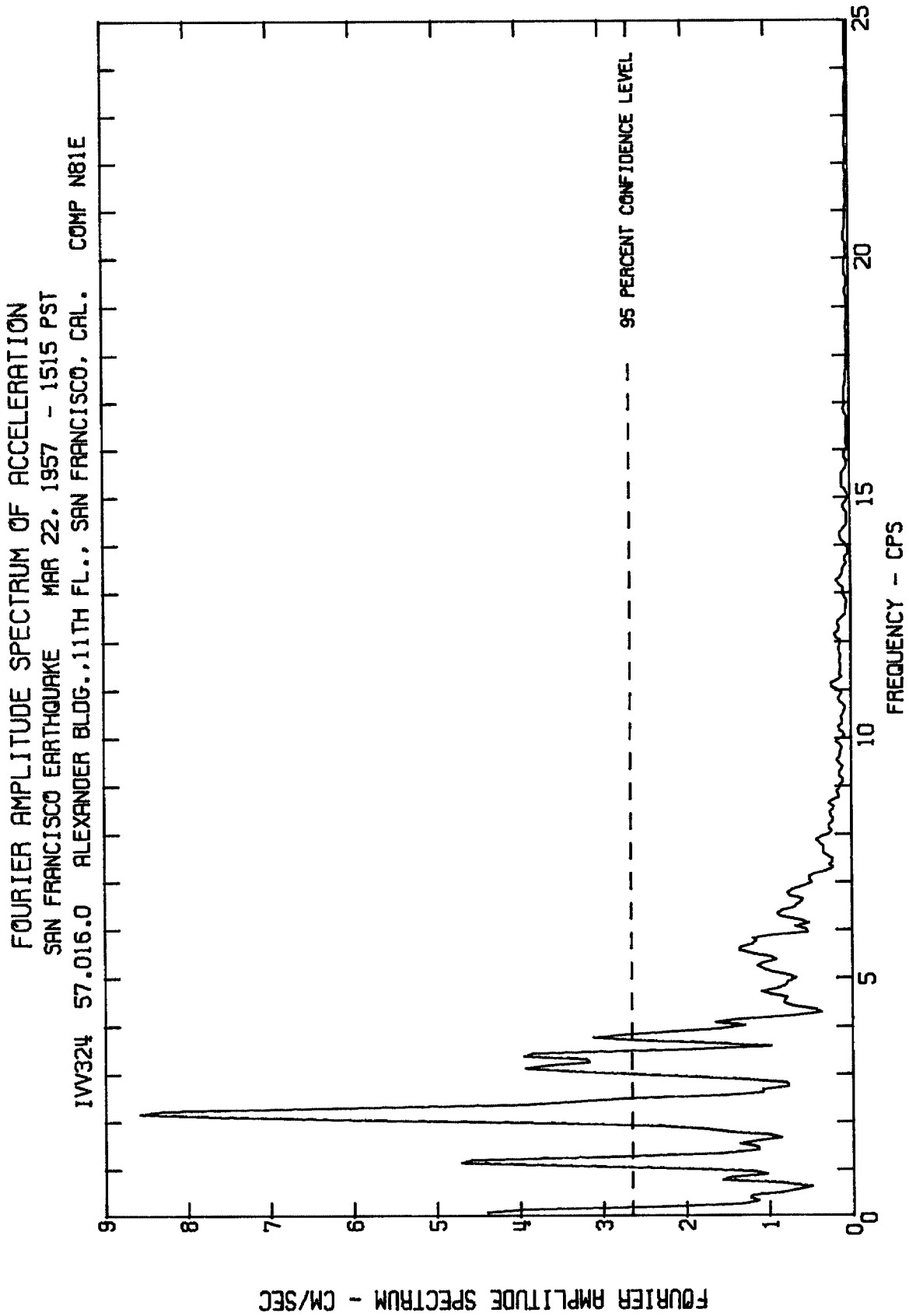
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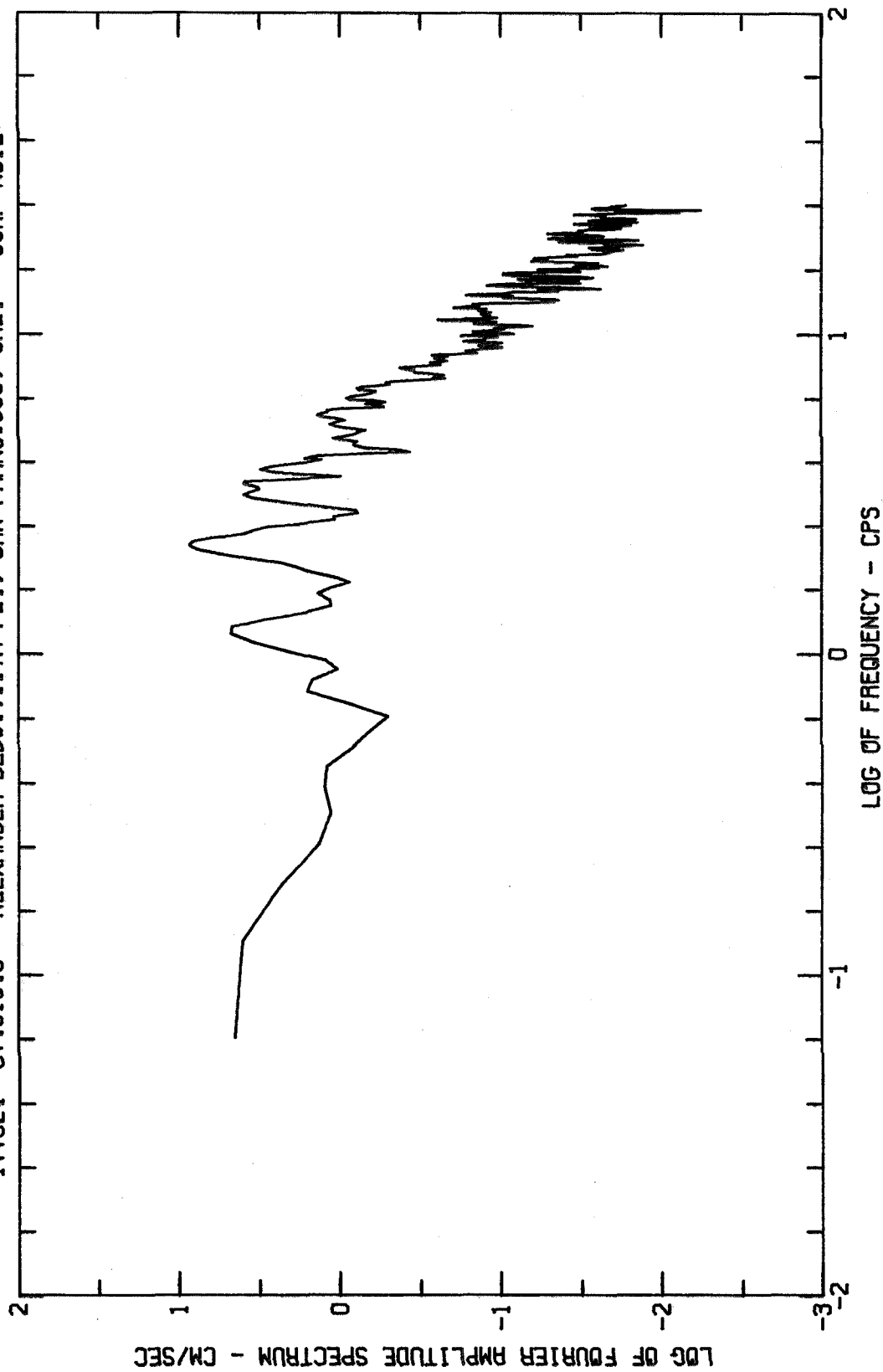
FOURIER AMPLITUDE SPECTRUM - CM/SEC

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
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IW323 57.015.0 ALEXANDER BLDG., BSMT., SAN FRANCISCO, CAL COMP UP

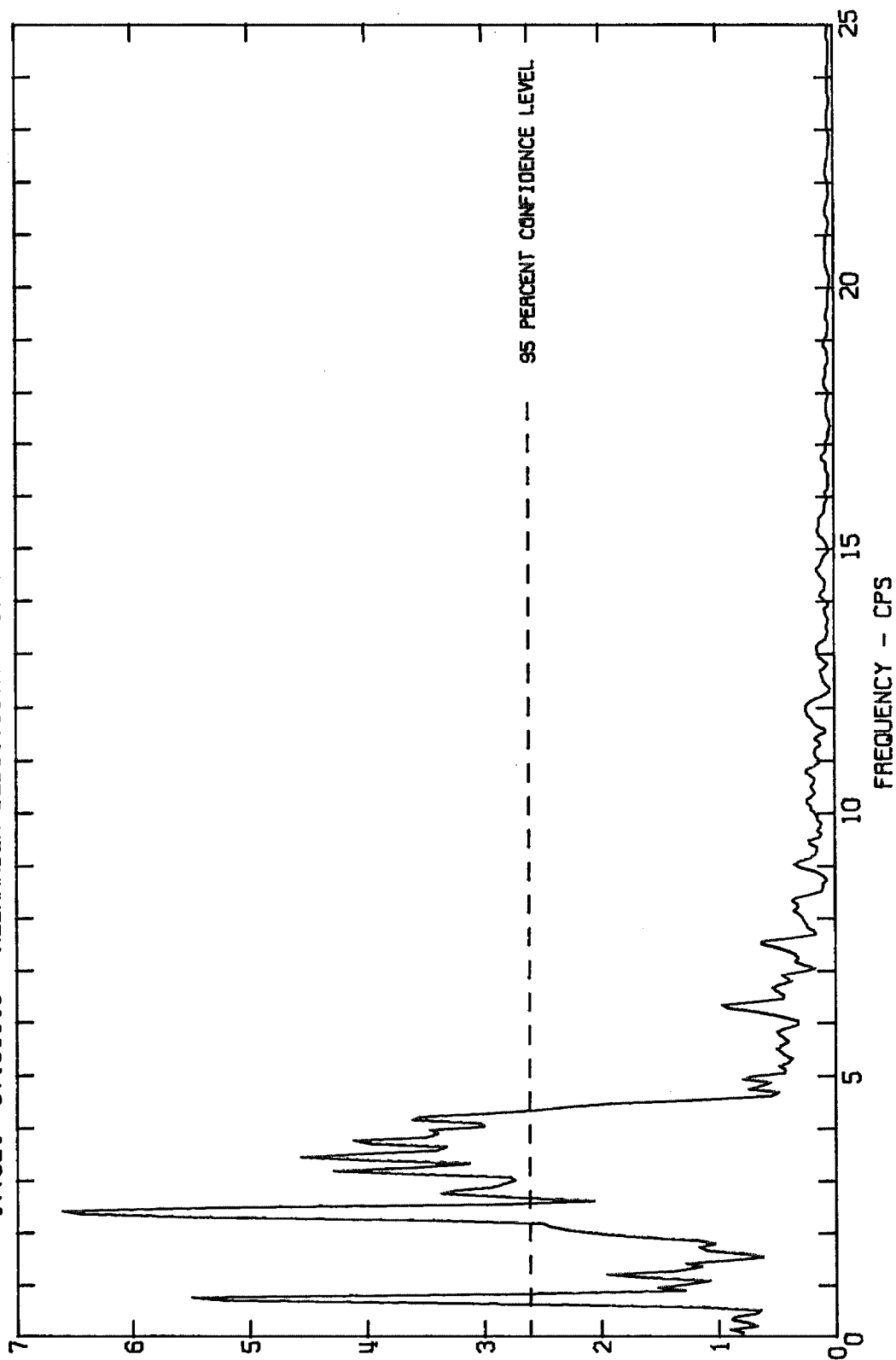




FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FRANCISCO EARTHQUAKE MAR 22, 1957 - 1515 PST
1VV324 57.016.0 ALEXANDER BLDG., 11TH FL., SAN FRANCISCO, CAL. COMP NB1E

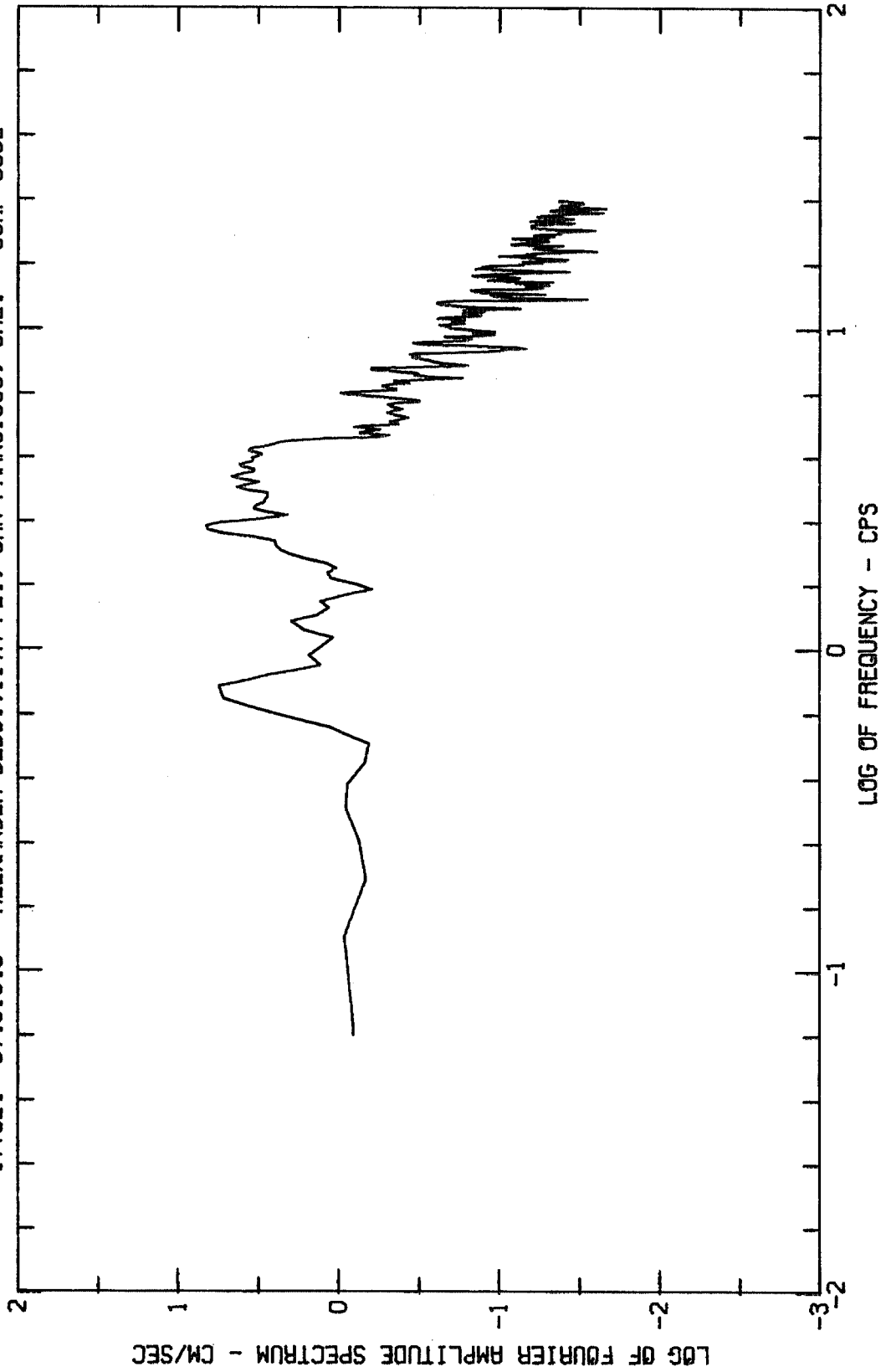


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FRANCISCO EARTHQUAKE MAR 22, 1957 - 1515 PST
IWV324 57.016.0 ALEXANDER BLDG., 11TH FL., SAN FRANCISCO, CAL. COMP S09E



FOURIER AMPLITUDE SPECTRUM - CM/SEC

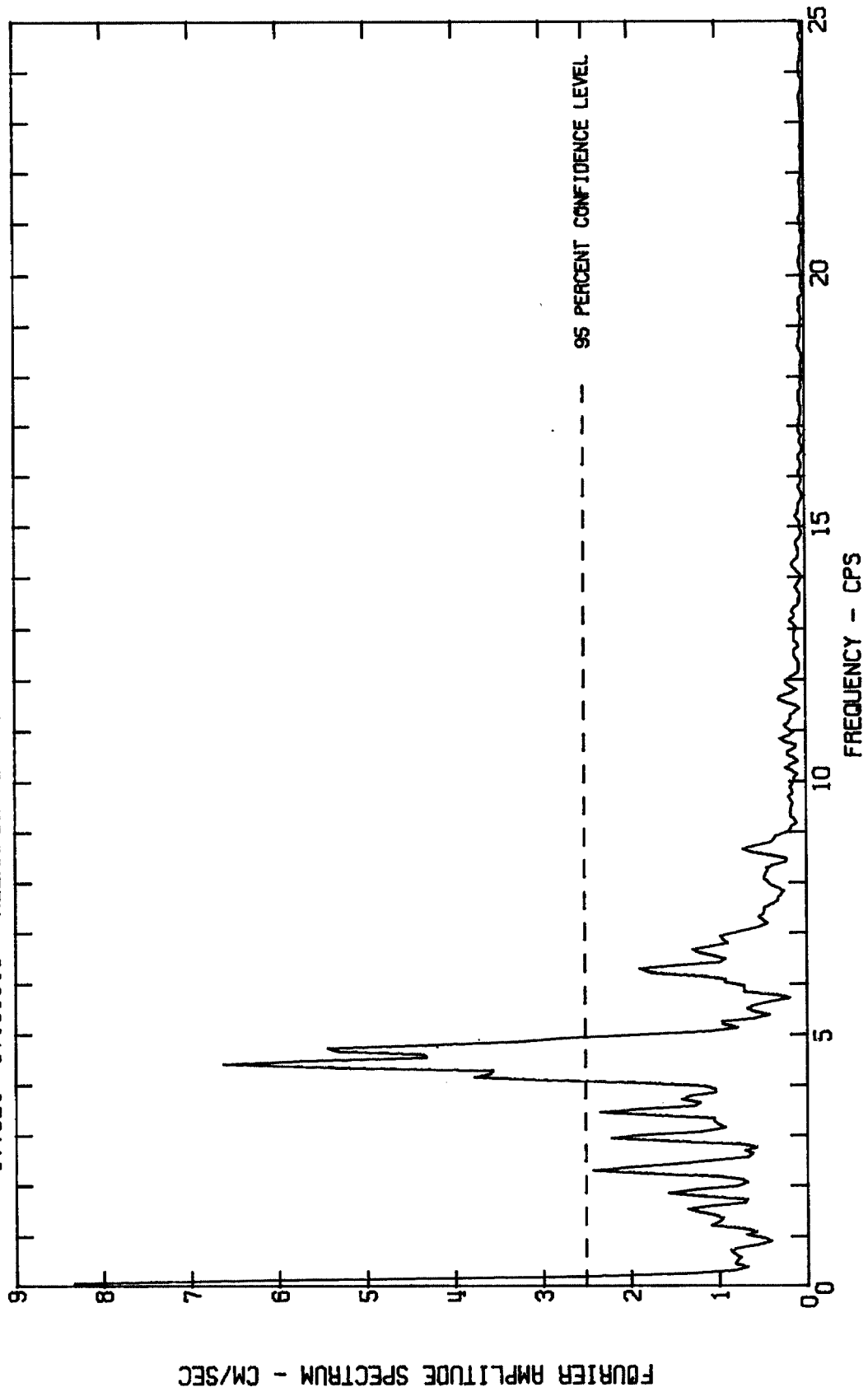
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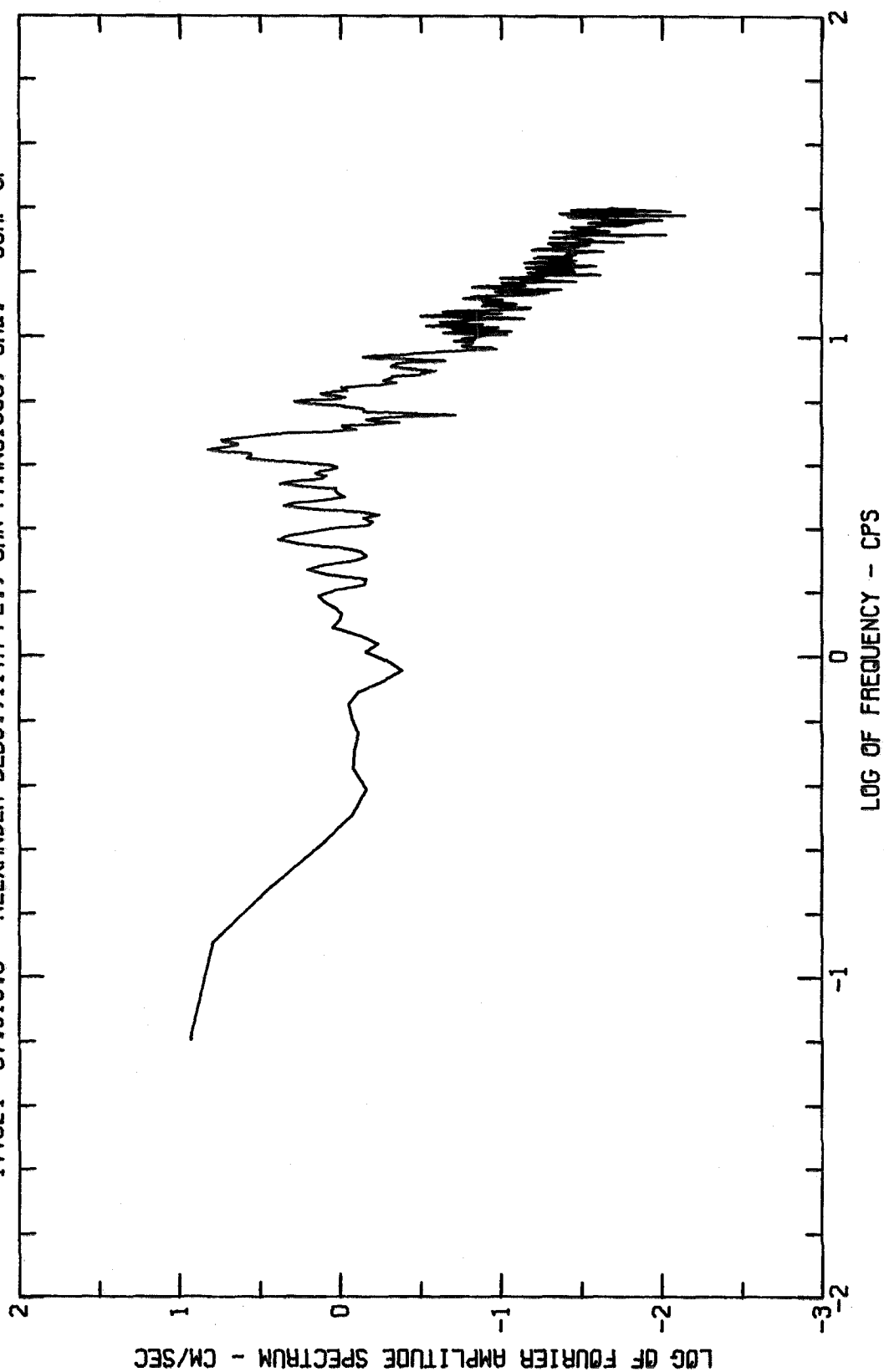
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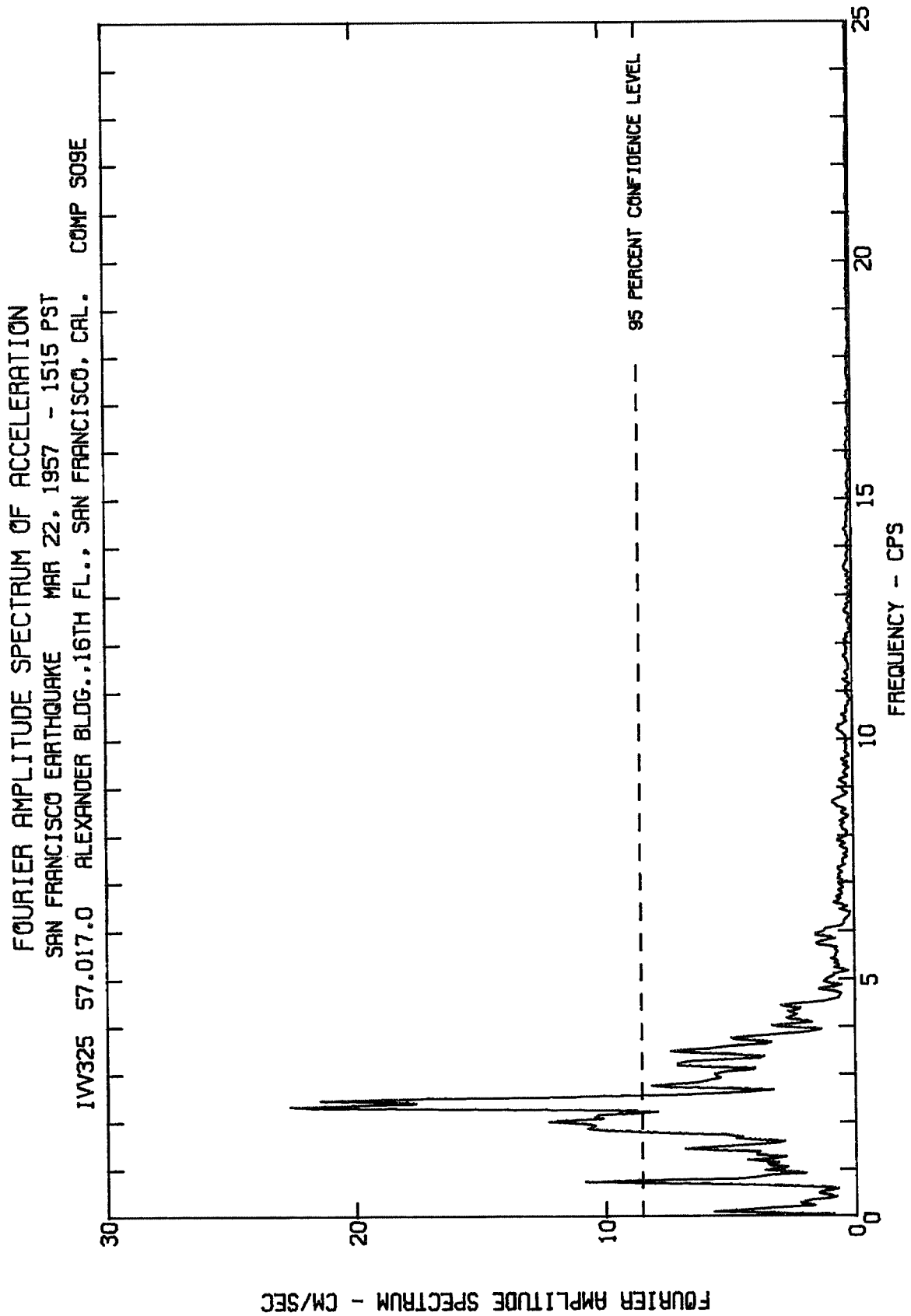
SAN FRANCISCO EARTHQUAKE MAR 22, 1957 - 1515 PST

IW324 57.016.0 ALEXANDER BLDG., 11TH FL., SAN FRANCISCO, CAL. COMP UP

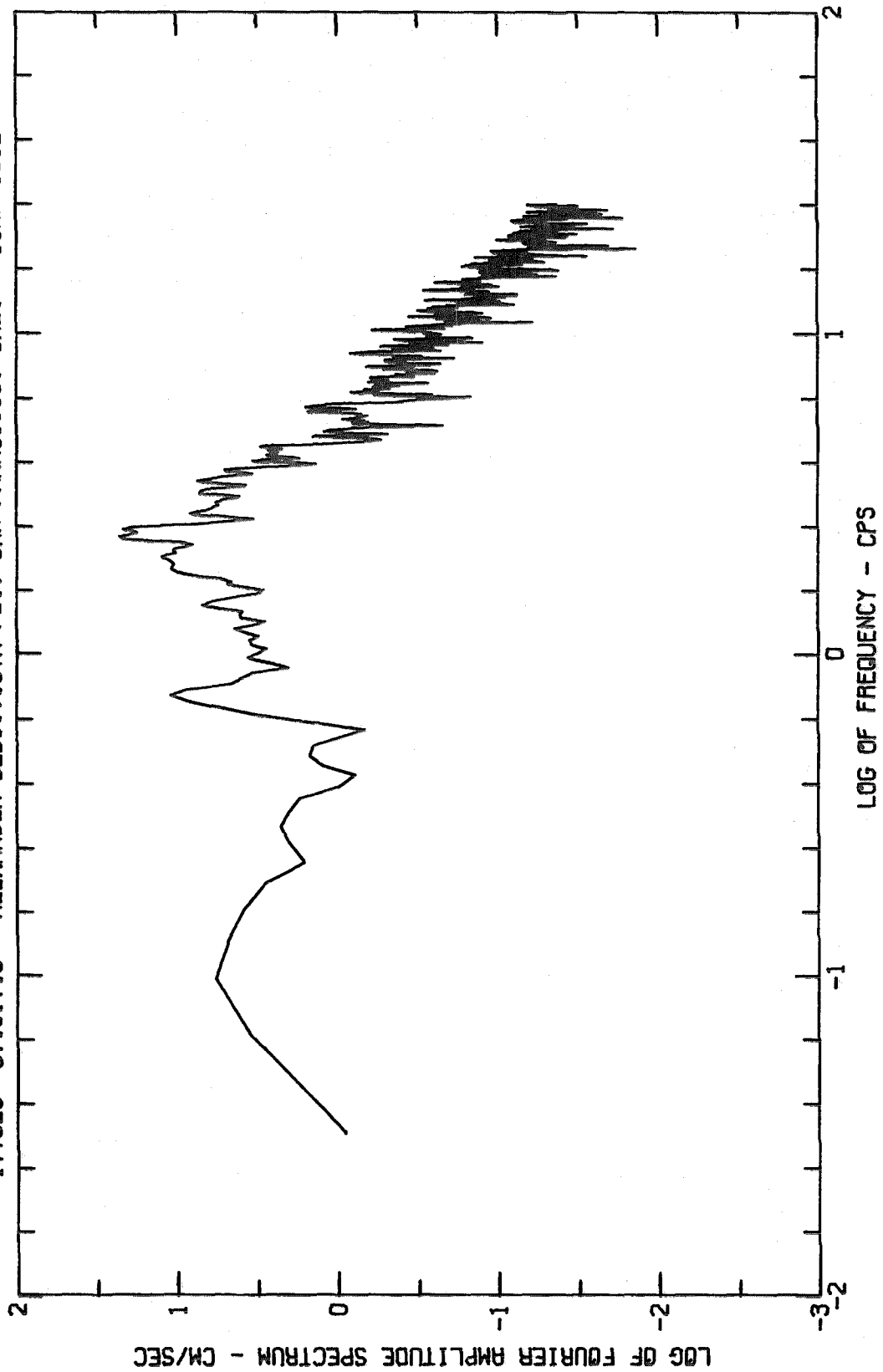


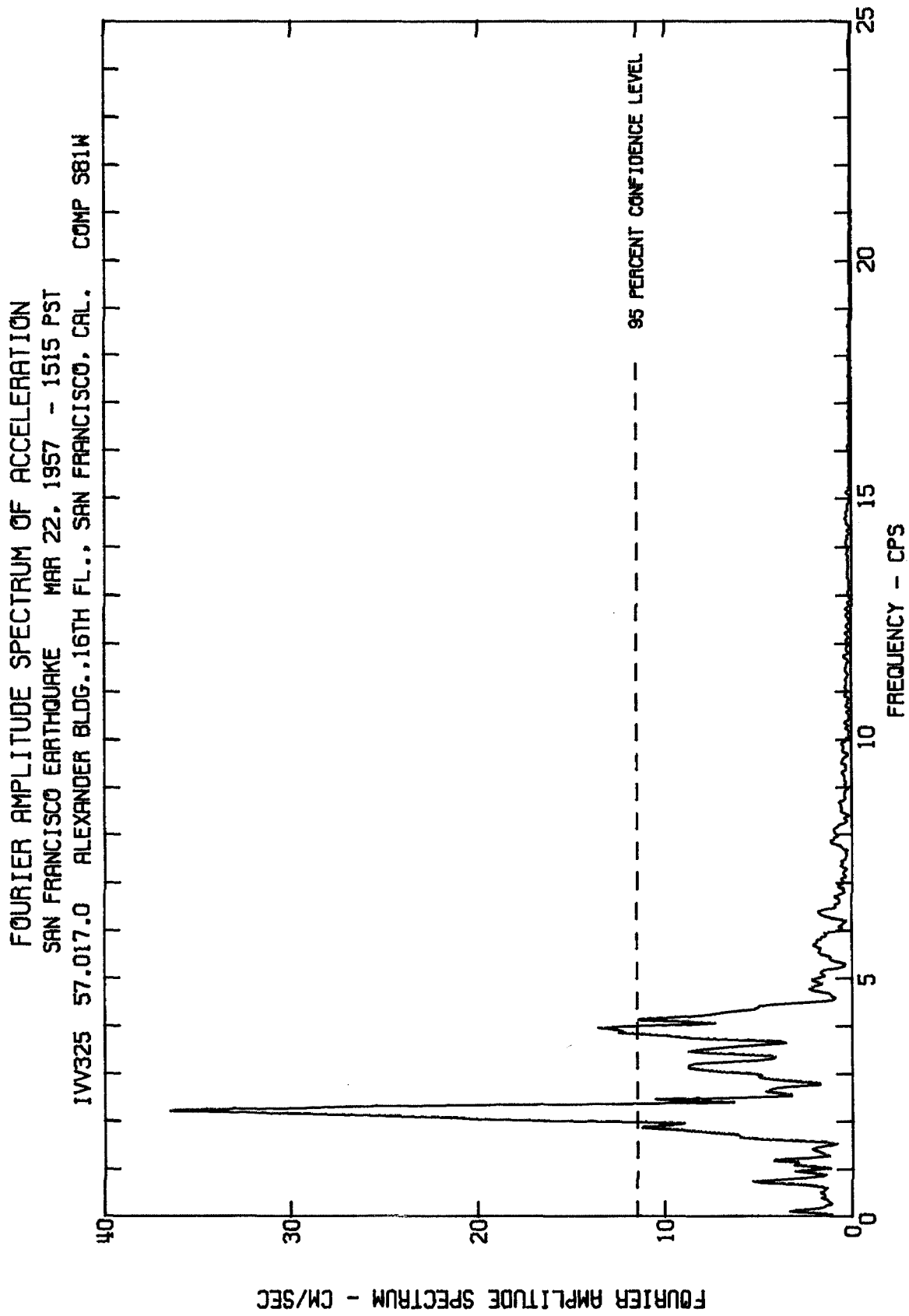
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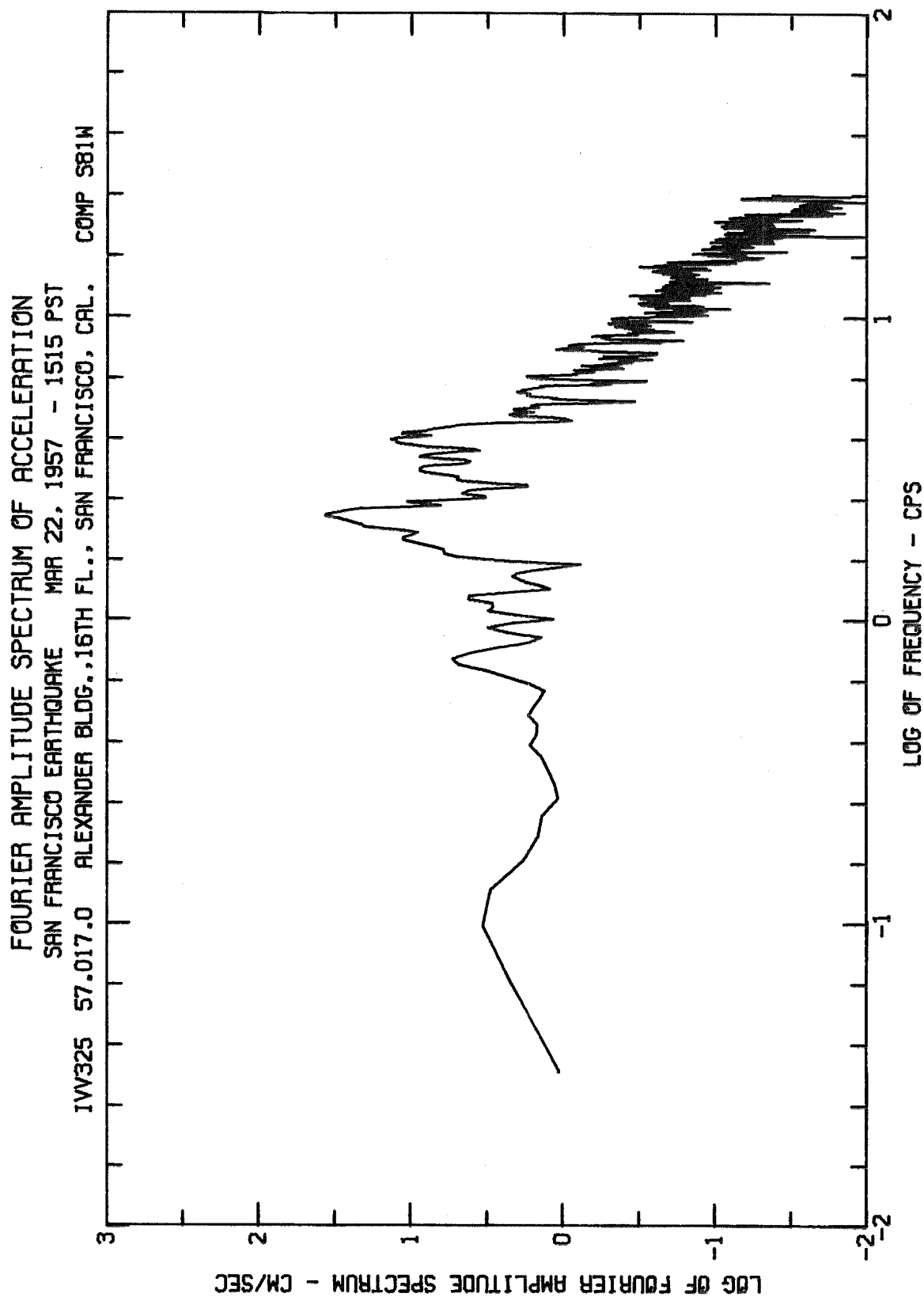




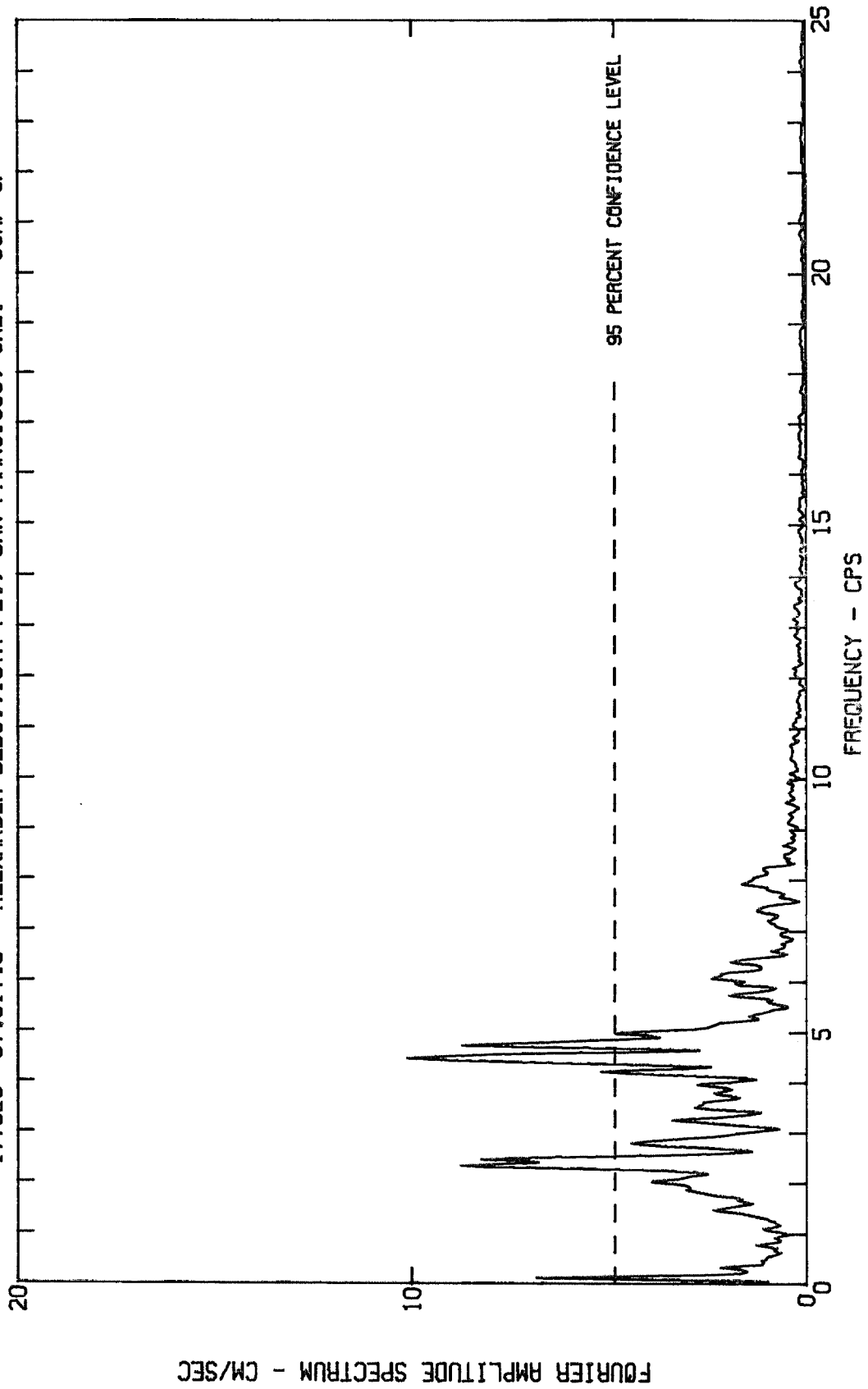
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IVV325 57.017.0 ALEXANDER BLDG., 16TH FL., SAN FRANCISCO, CAL. COMP S09E



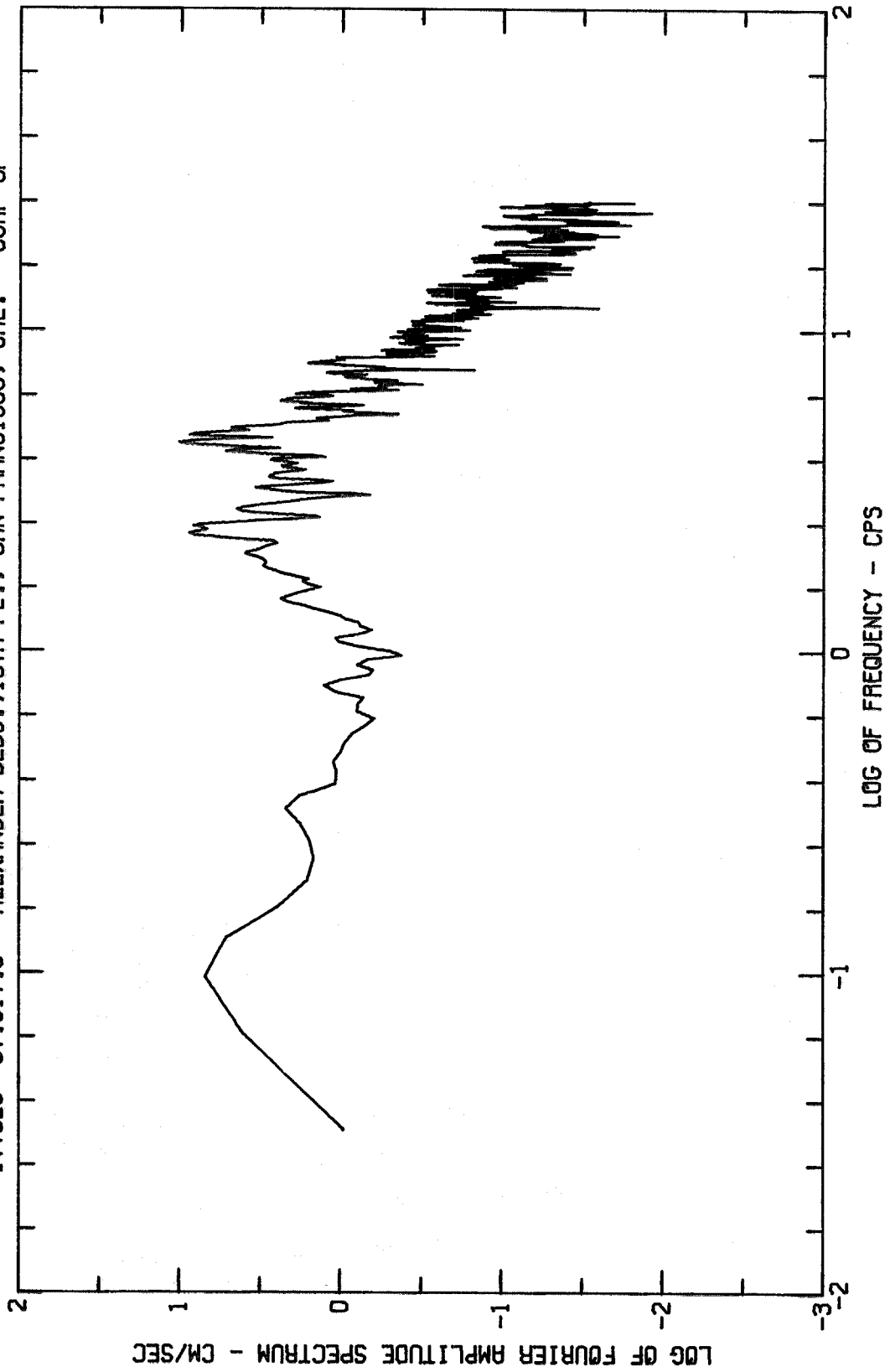




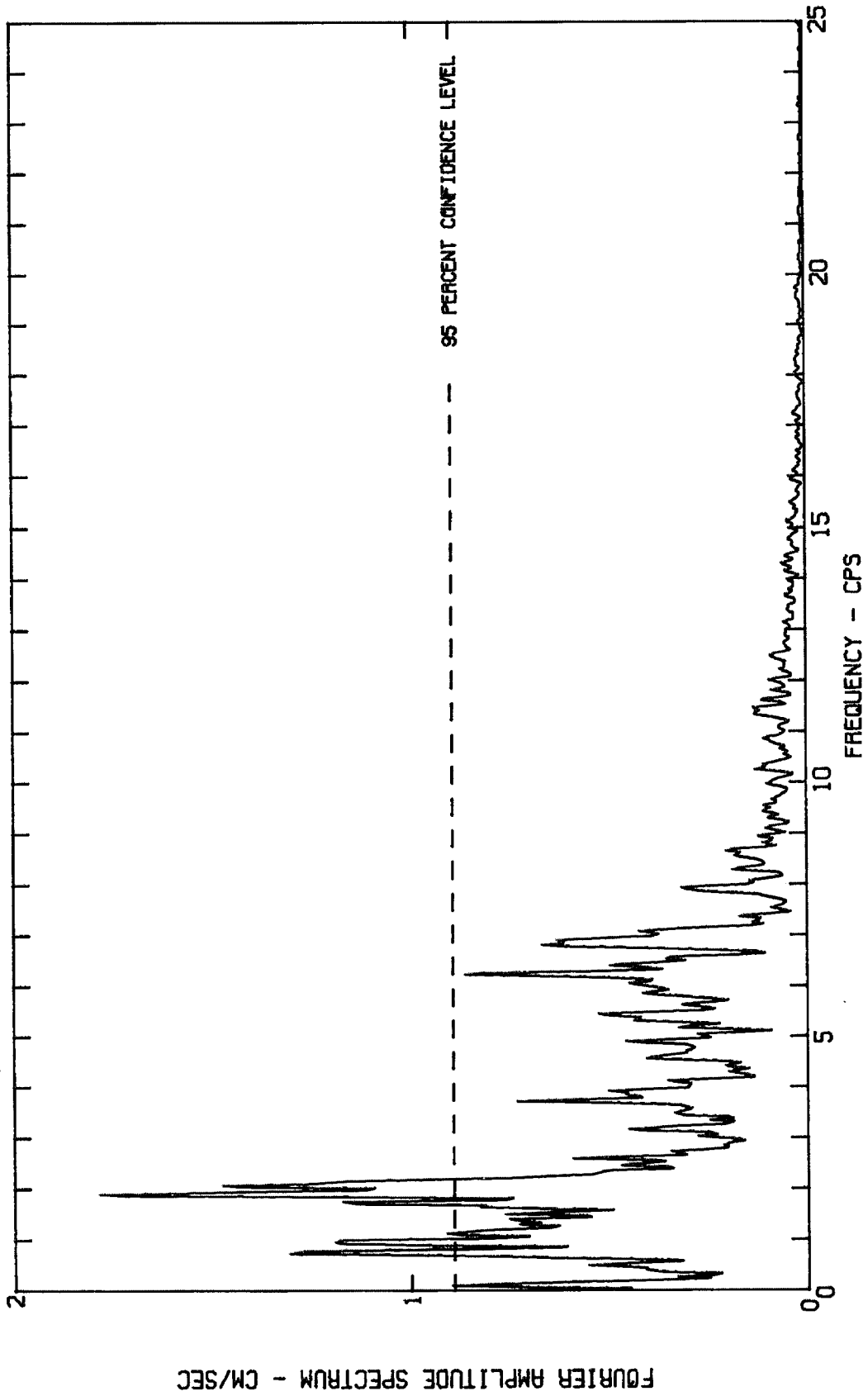
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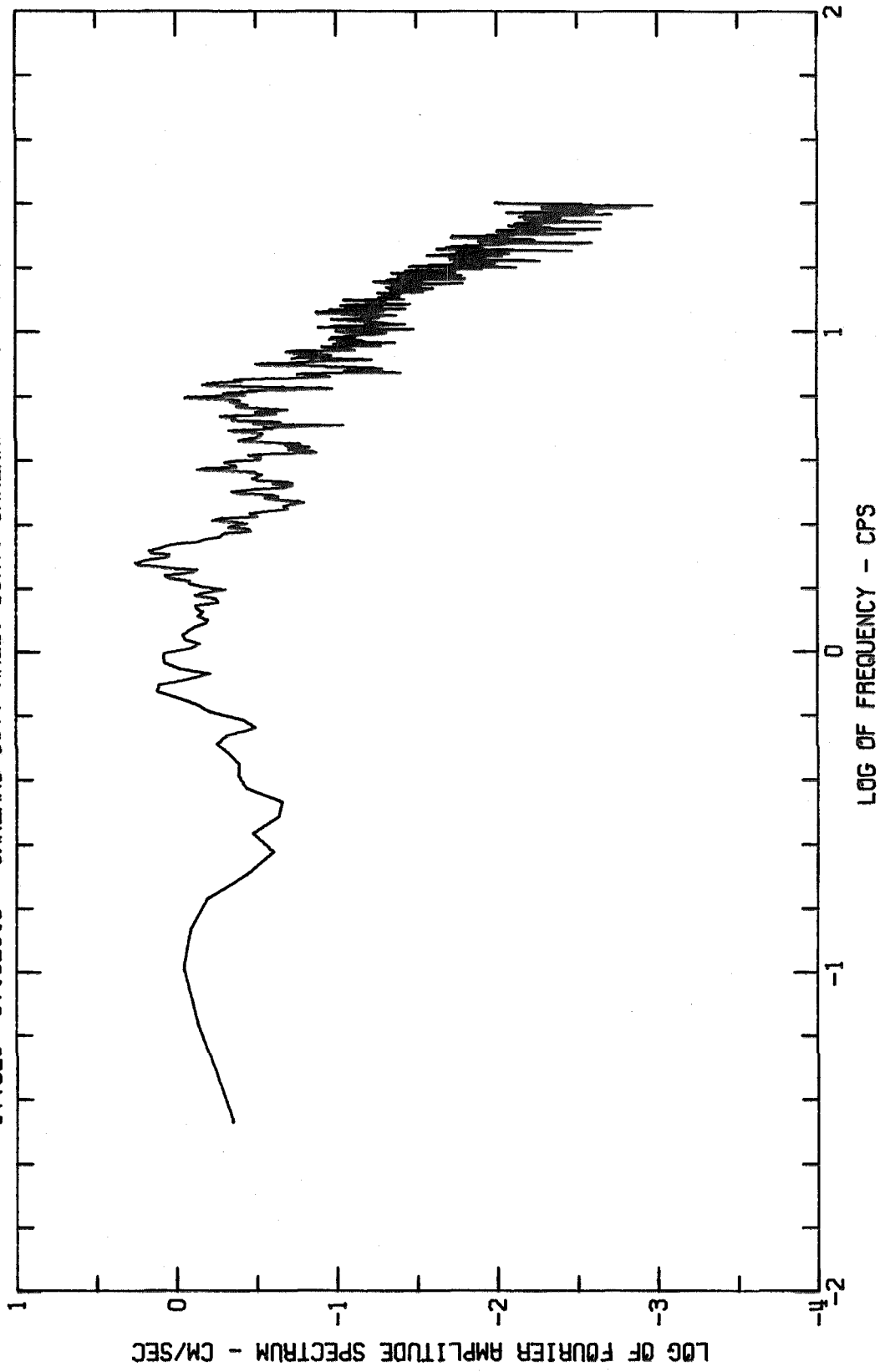
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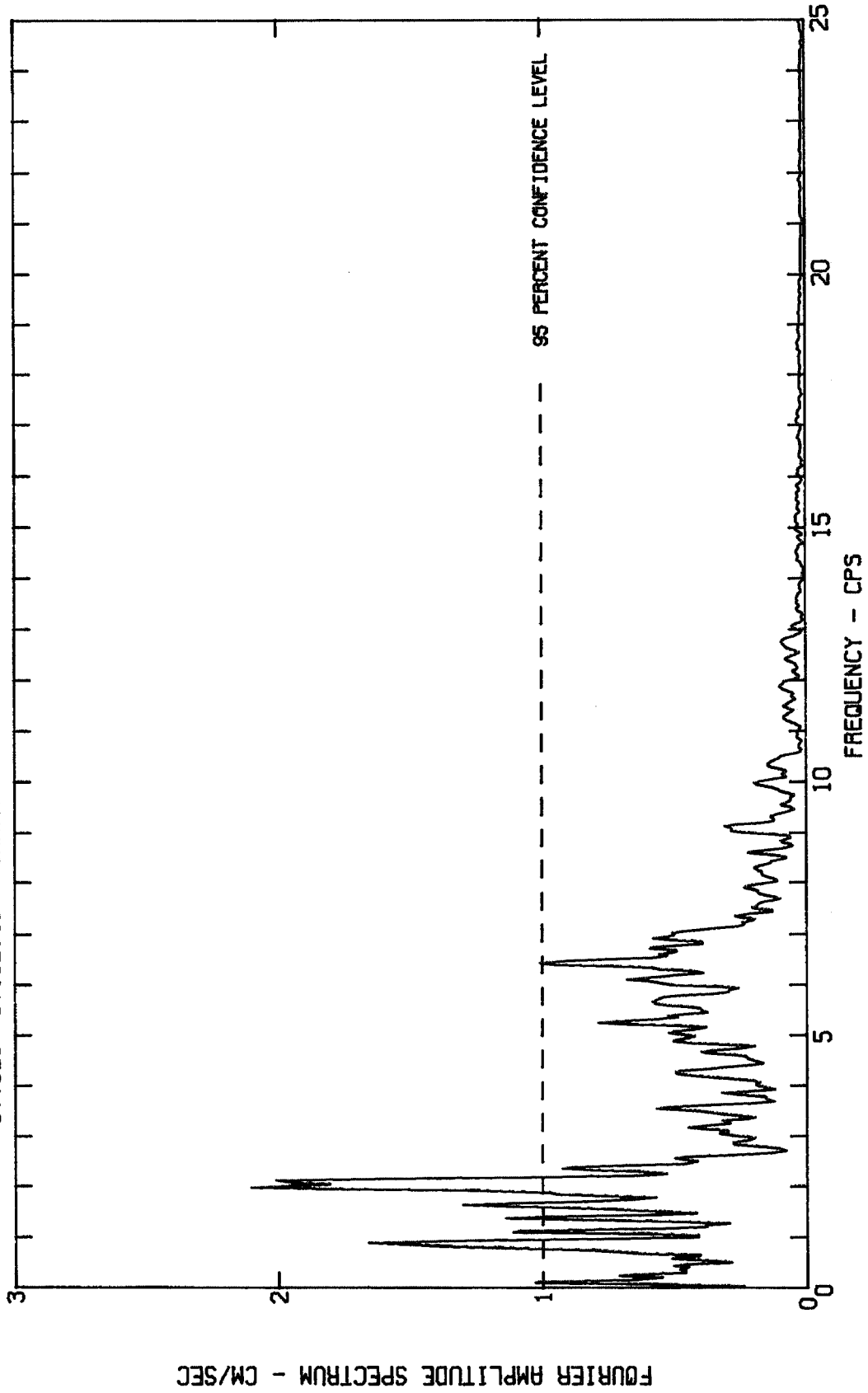
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FRANCISCO EARTHQUAKE MAR 22, 1957 - 1515 PST
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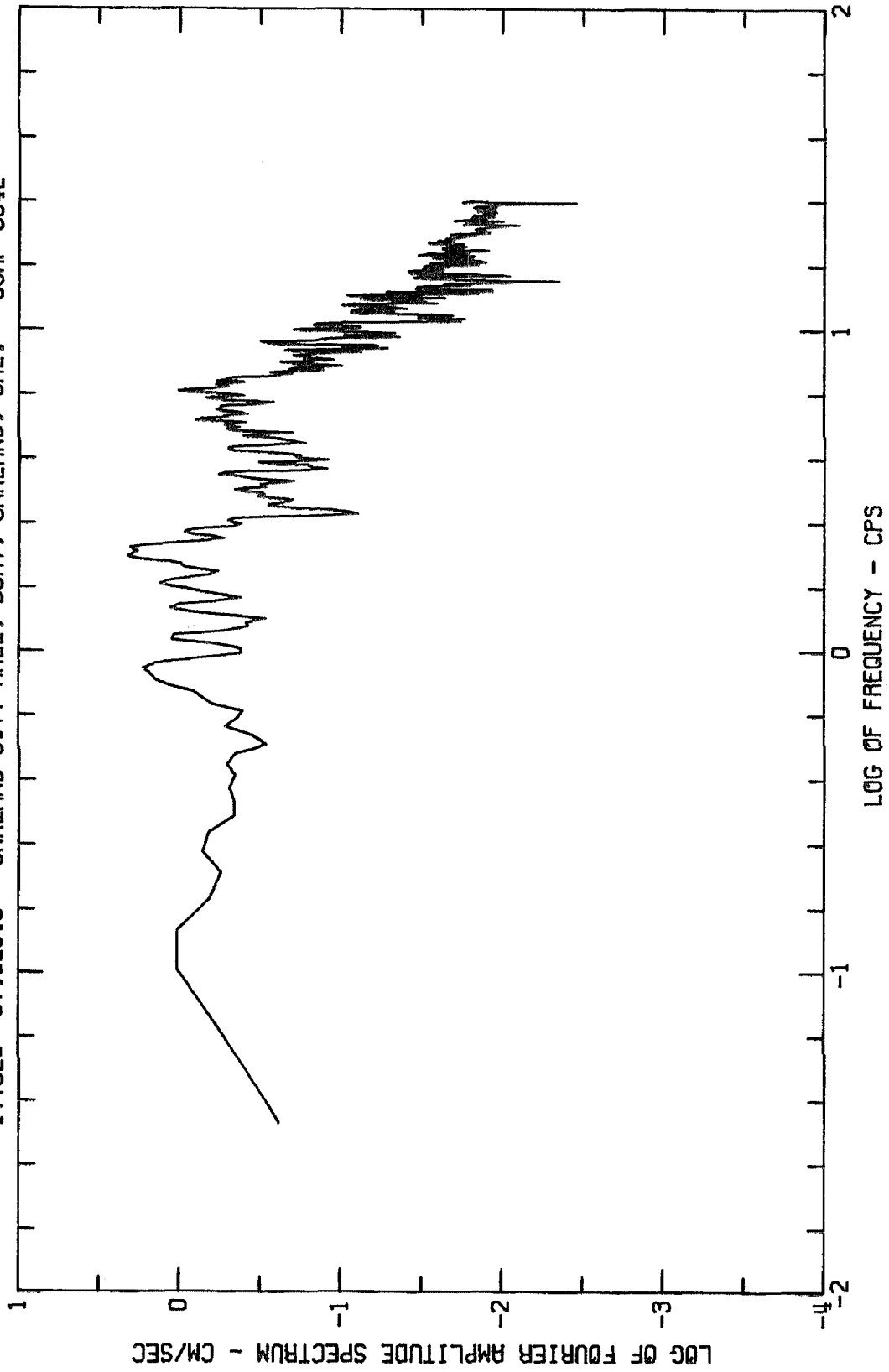
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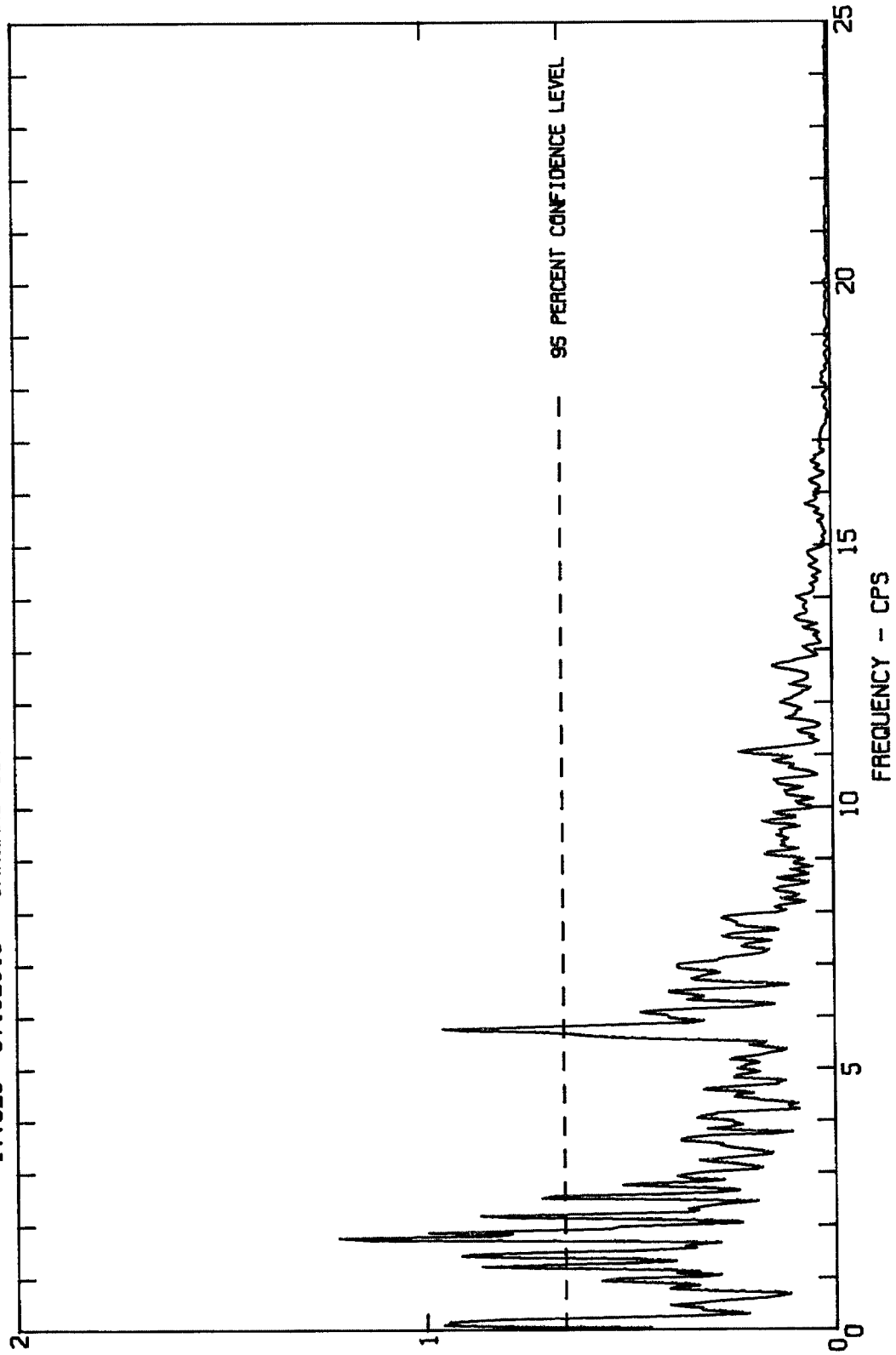
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SAN FRANCISCO EARTHQUAKE MAR 22, 1957 - 1515 PST
IW326 57.020.0 OAKLAND CITY HALL, BSMT, OAKLAND, CAL. COMP S64E



FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FRANCISCO EARTHQUAKE MAR 22, 1957 - 1515 PST
IVV326 57.020.0 OAKLAND CITY HALL, BSMT, OAKLAND, CAL. COMP S64E

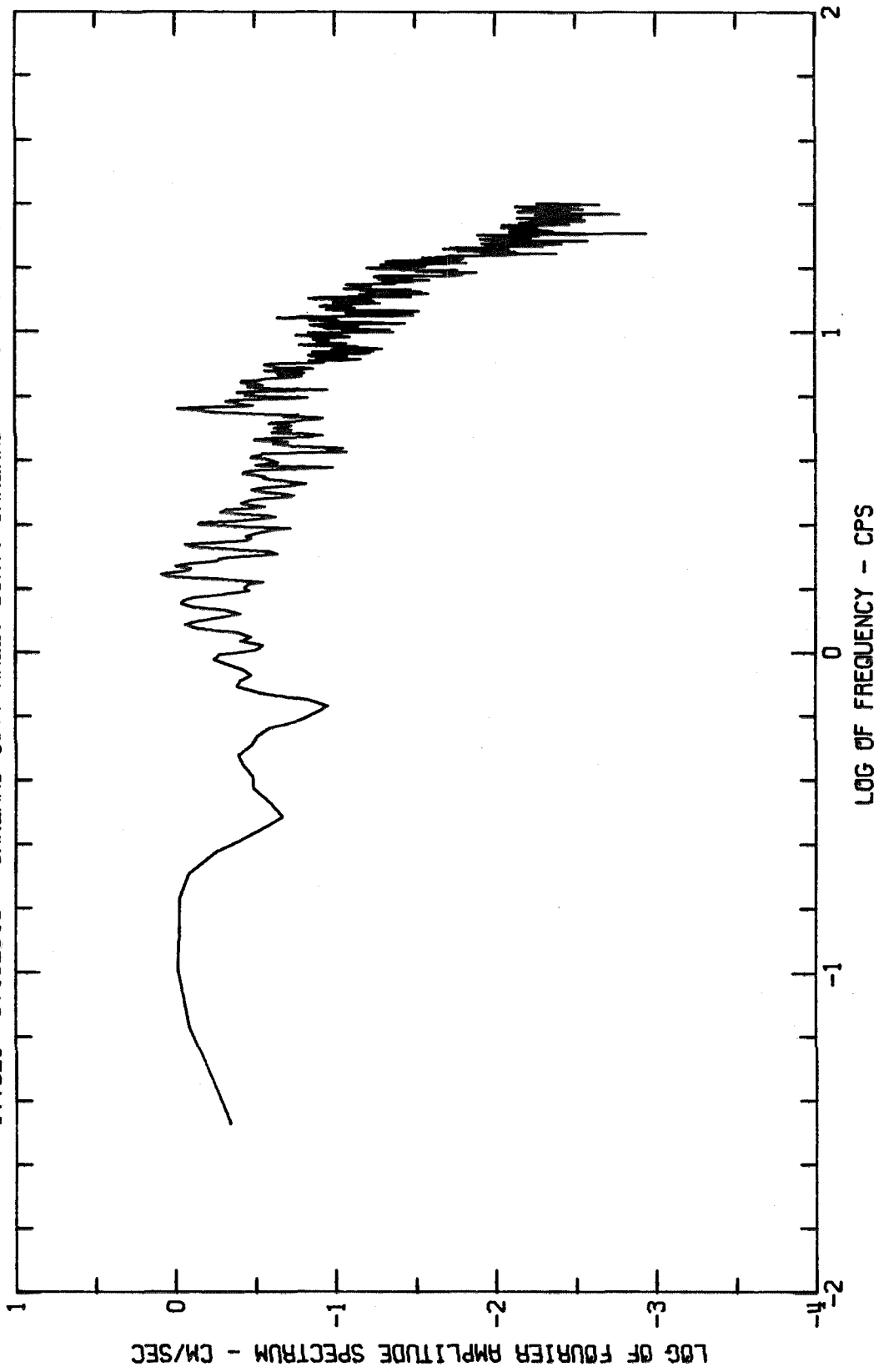


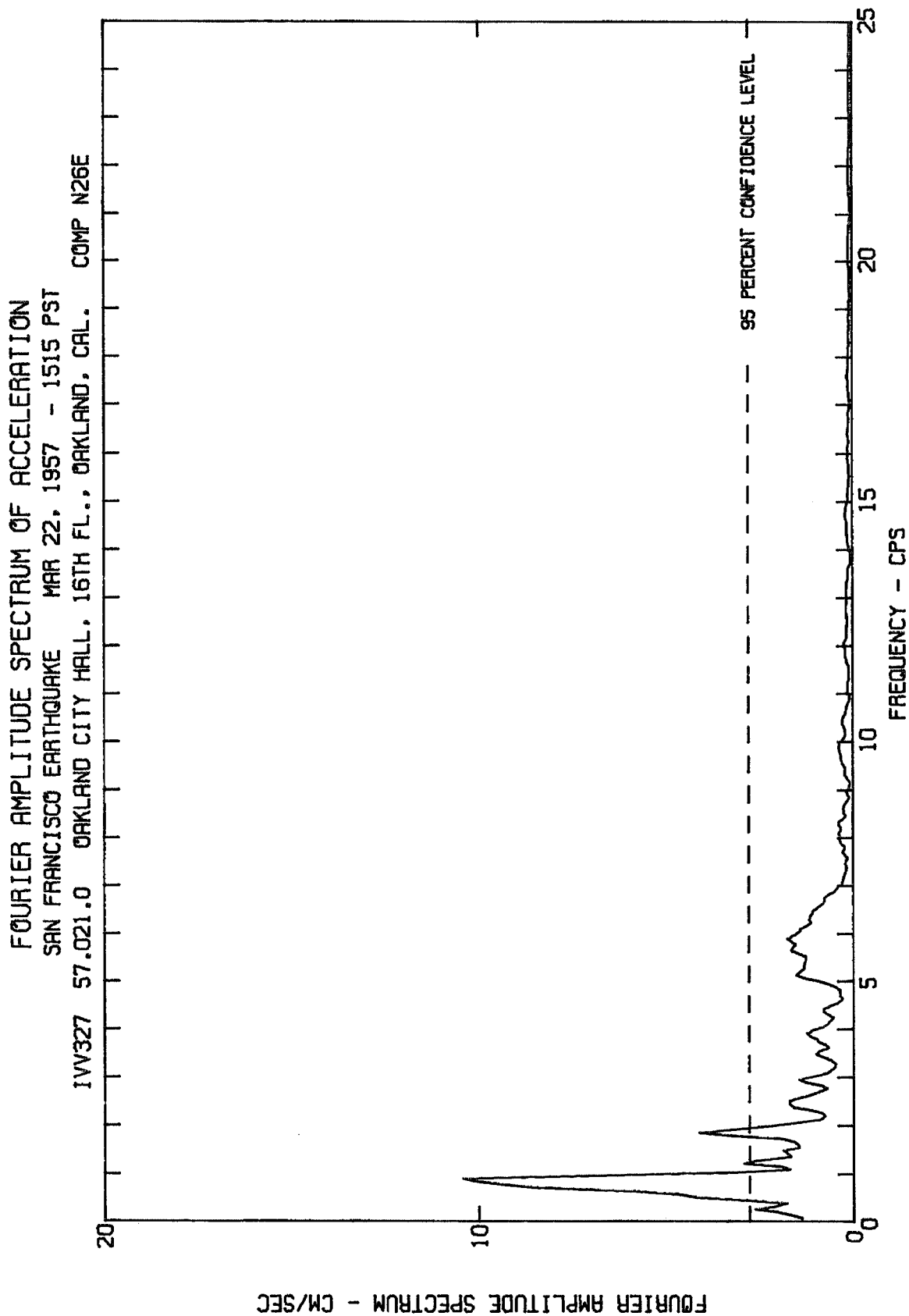
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1WV326 57.020.0 OAKLAND CITY HALL, BSMT, OAKLAND, CAL. COMP UP



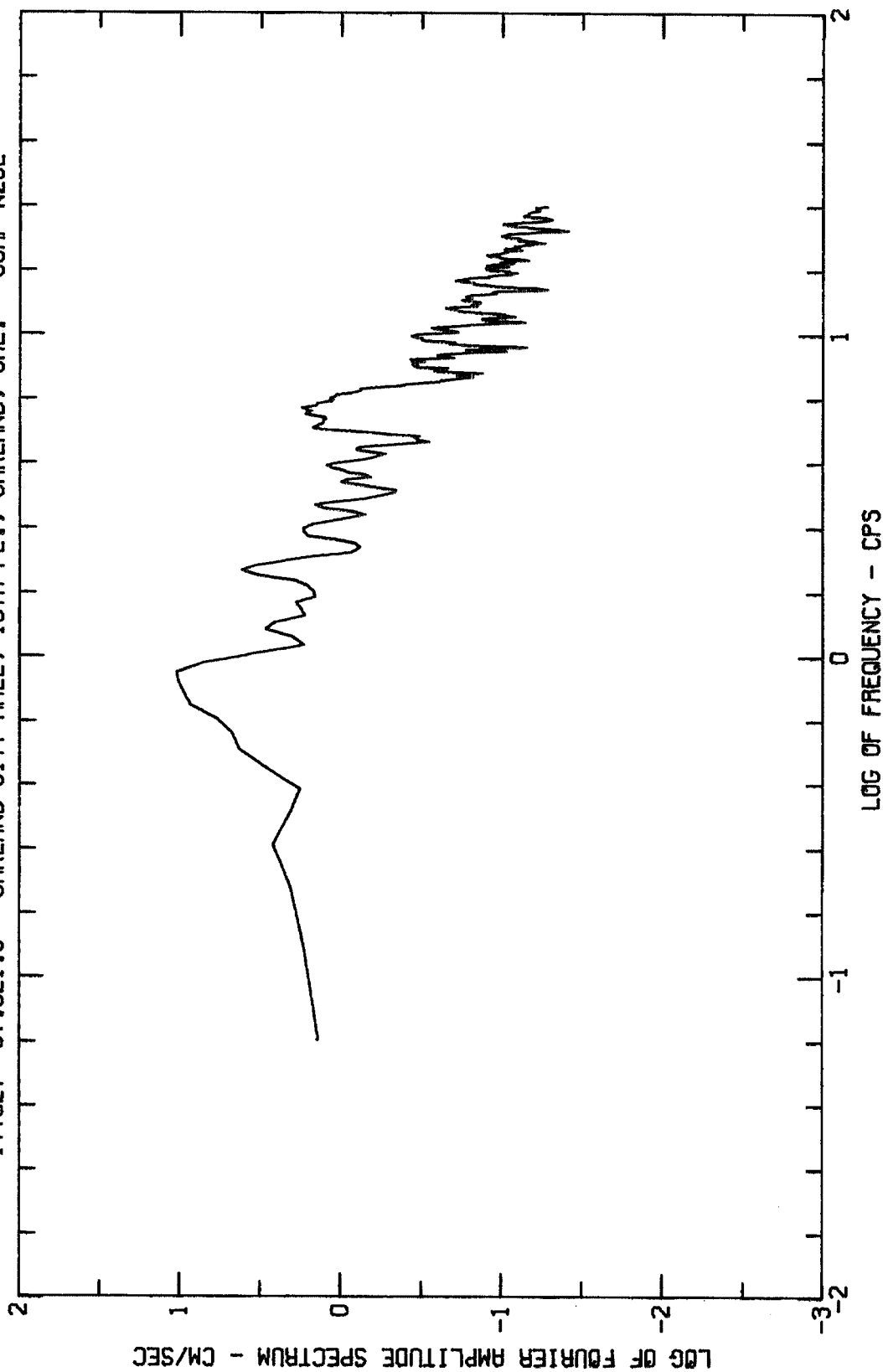
FOURIER AMPLITUDE SPECTRUM - CM/SEC

FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
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IW326 57.020.0 OAKLAND CITY HALL, BSMT, OAKLAND, CAL. COMP UP

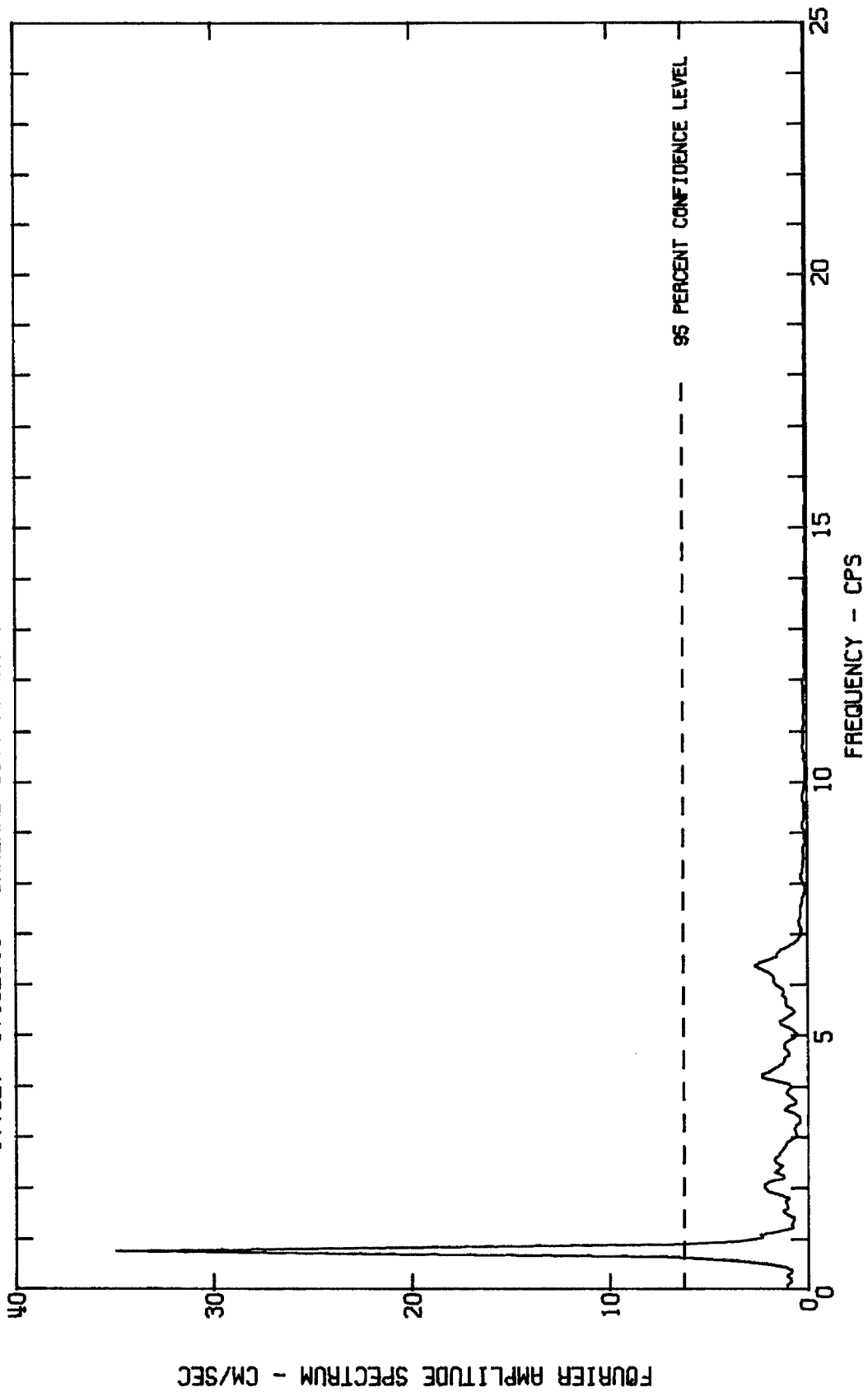


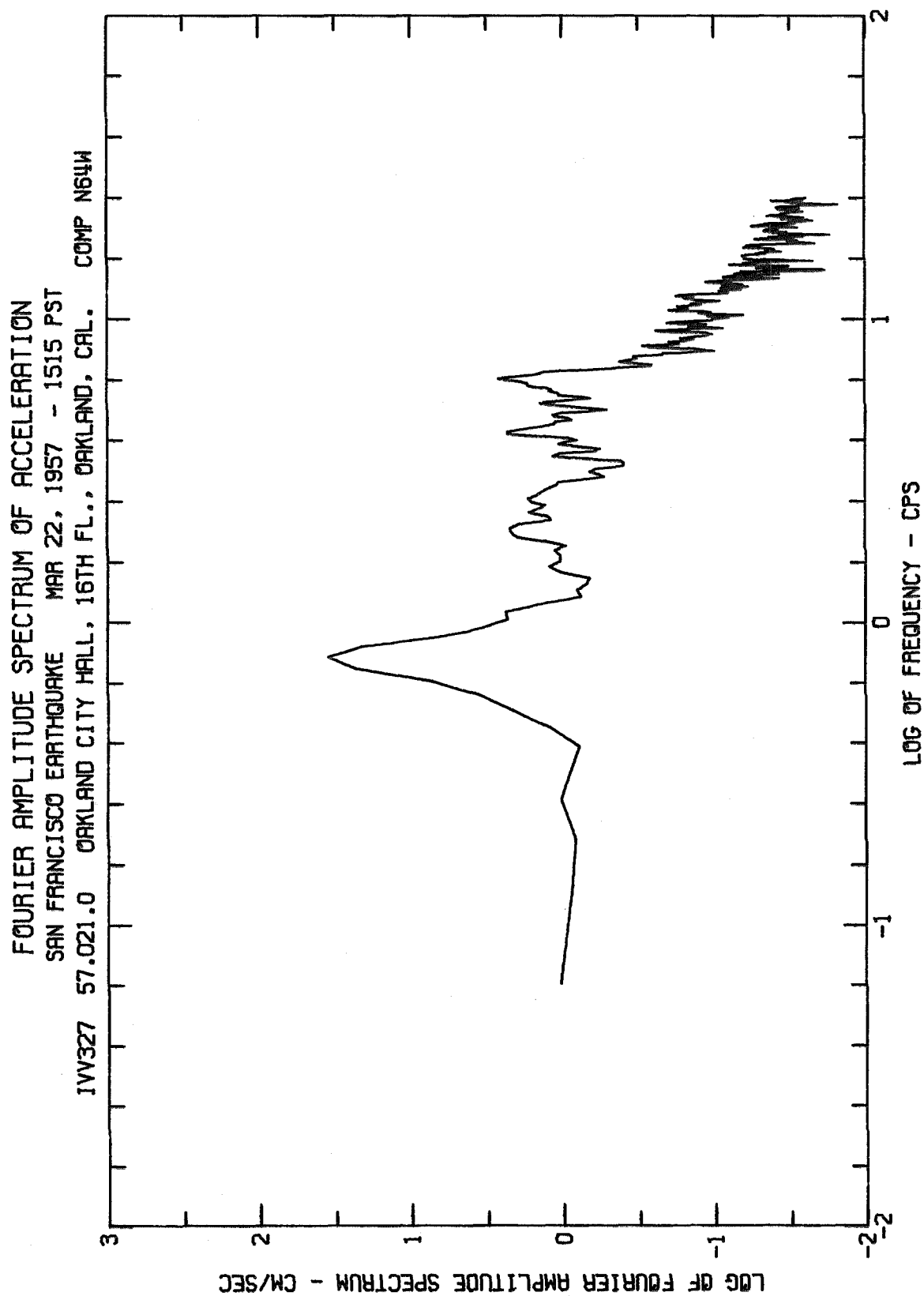


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
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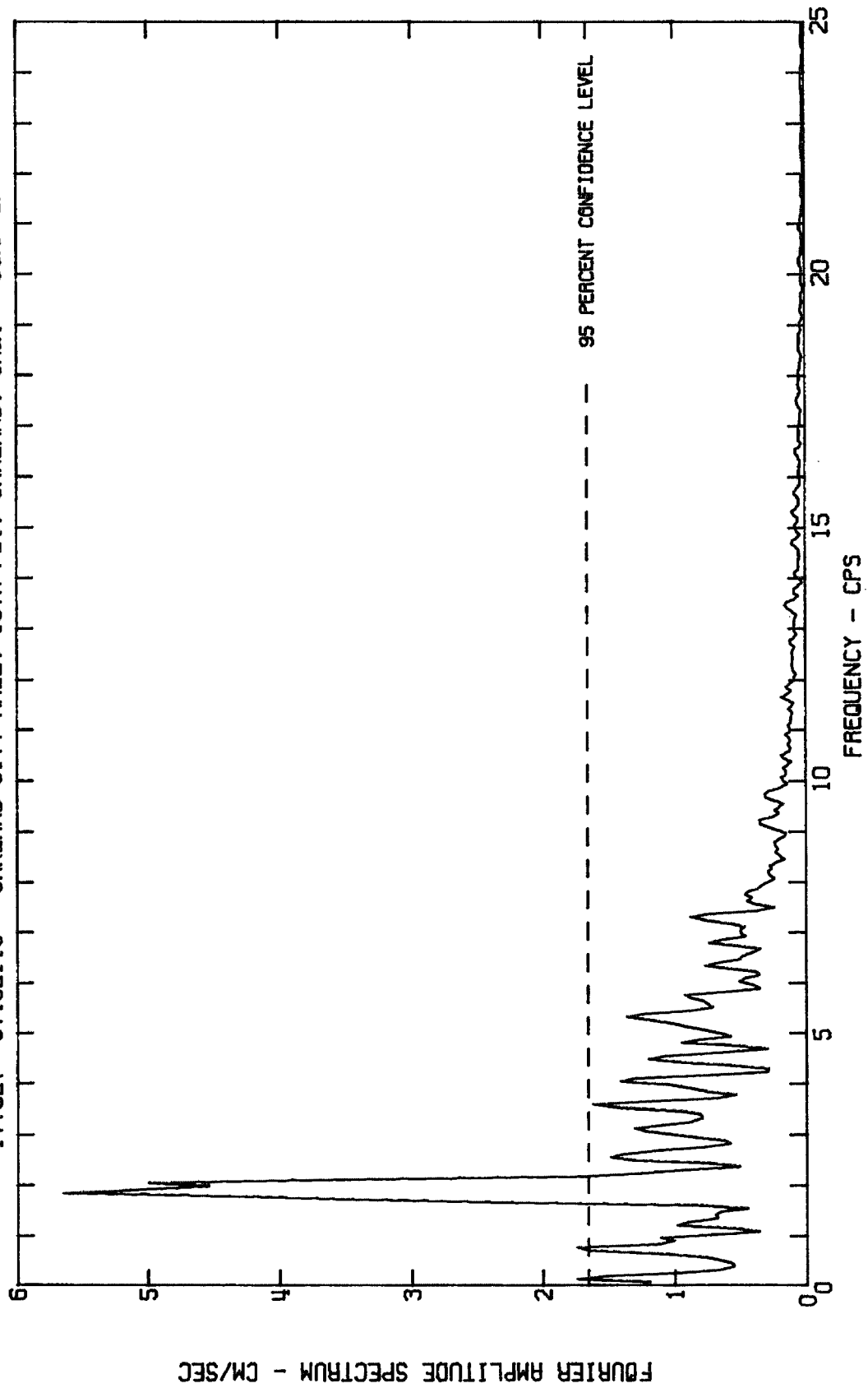


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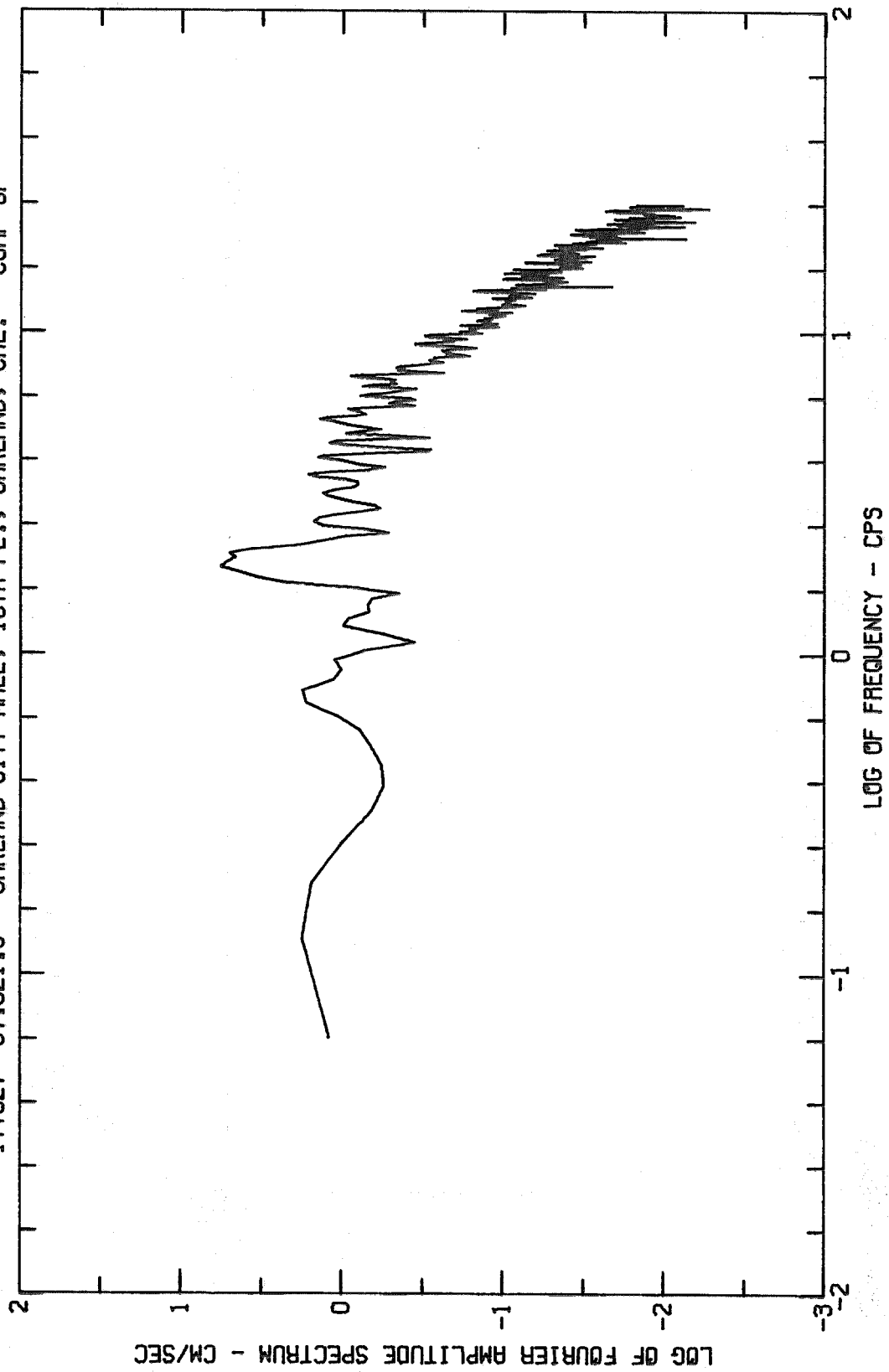




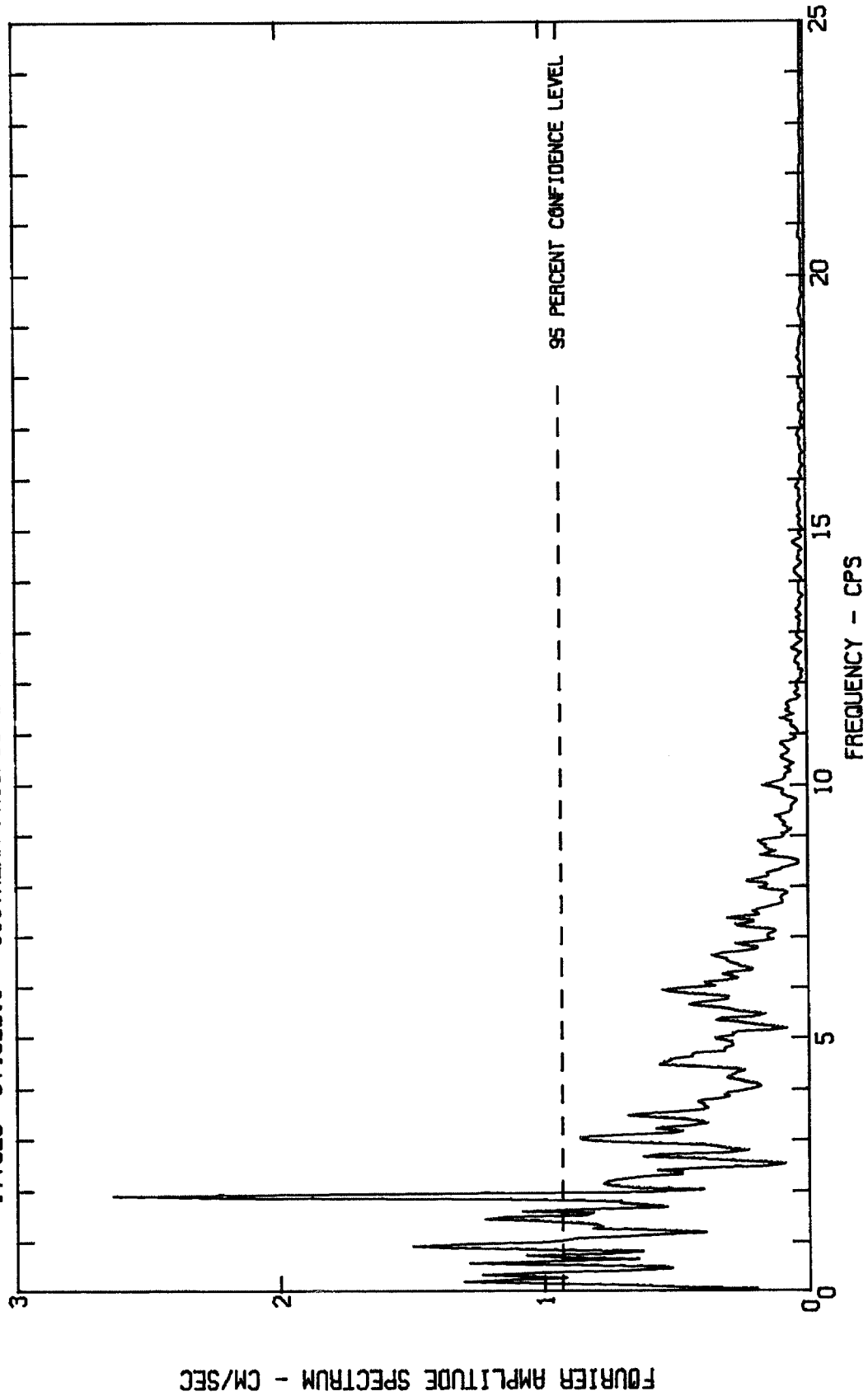
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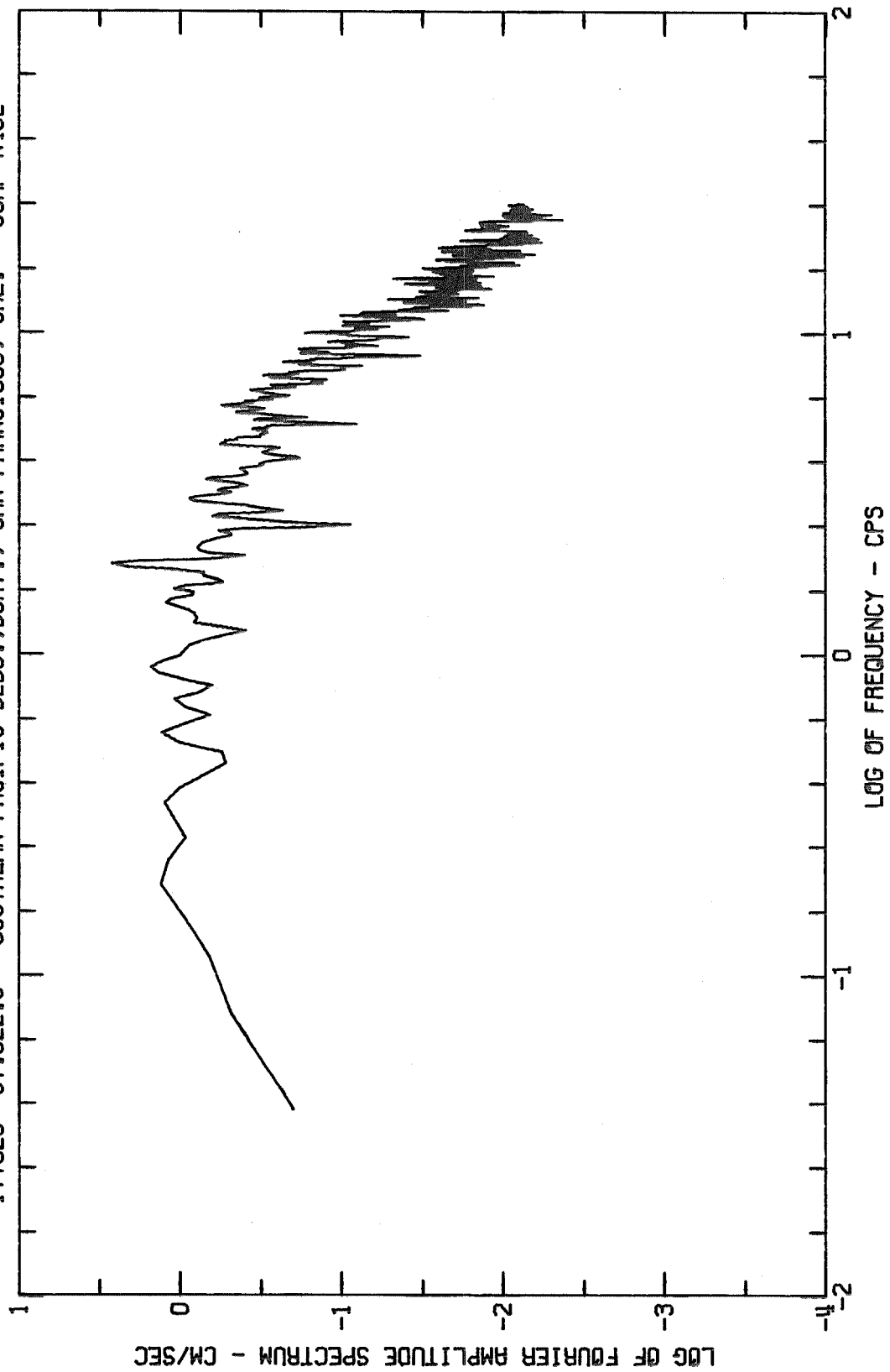
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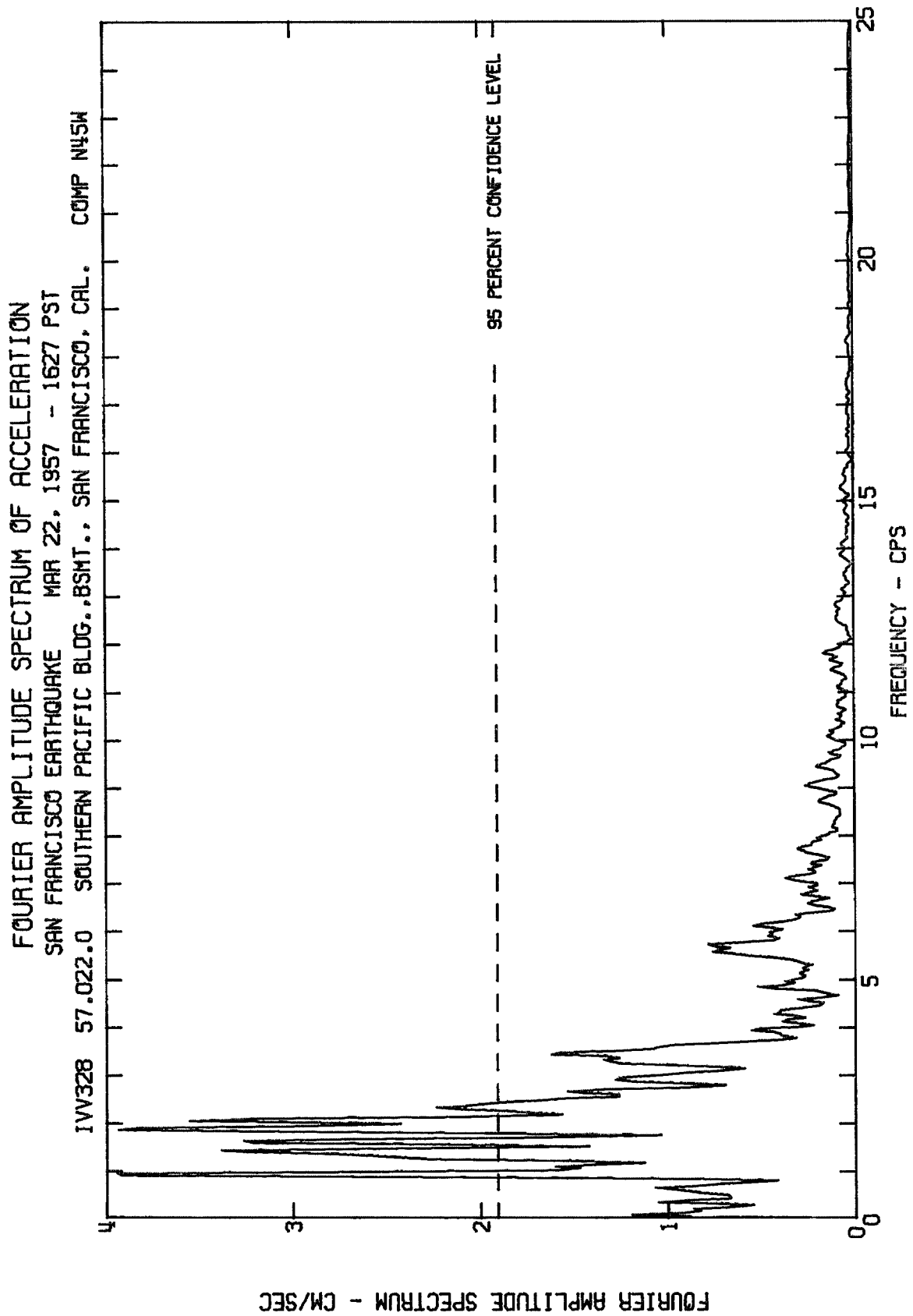


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FRANCISCO EARTHQUAKE MAR 22, 1957 - 1627 PST
1WV328 57.022.0 SOUTHERN PACIFIC BLDG., BSMT., SAN FRANCISCO, CAL. COMP N45E

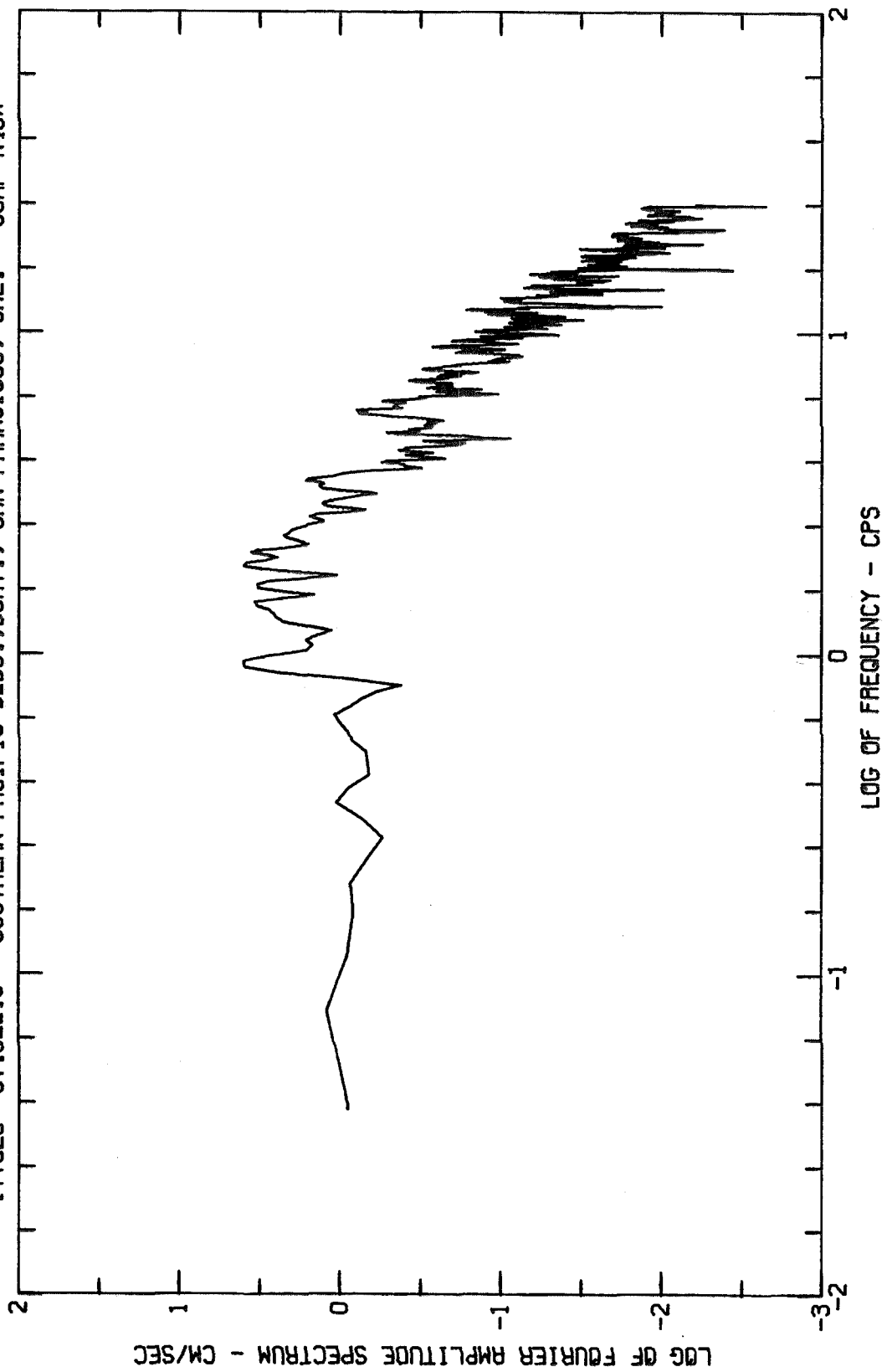


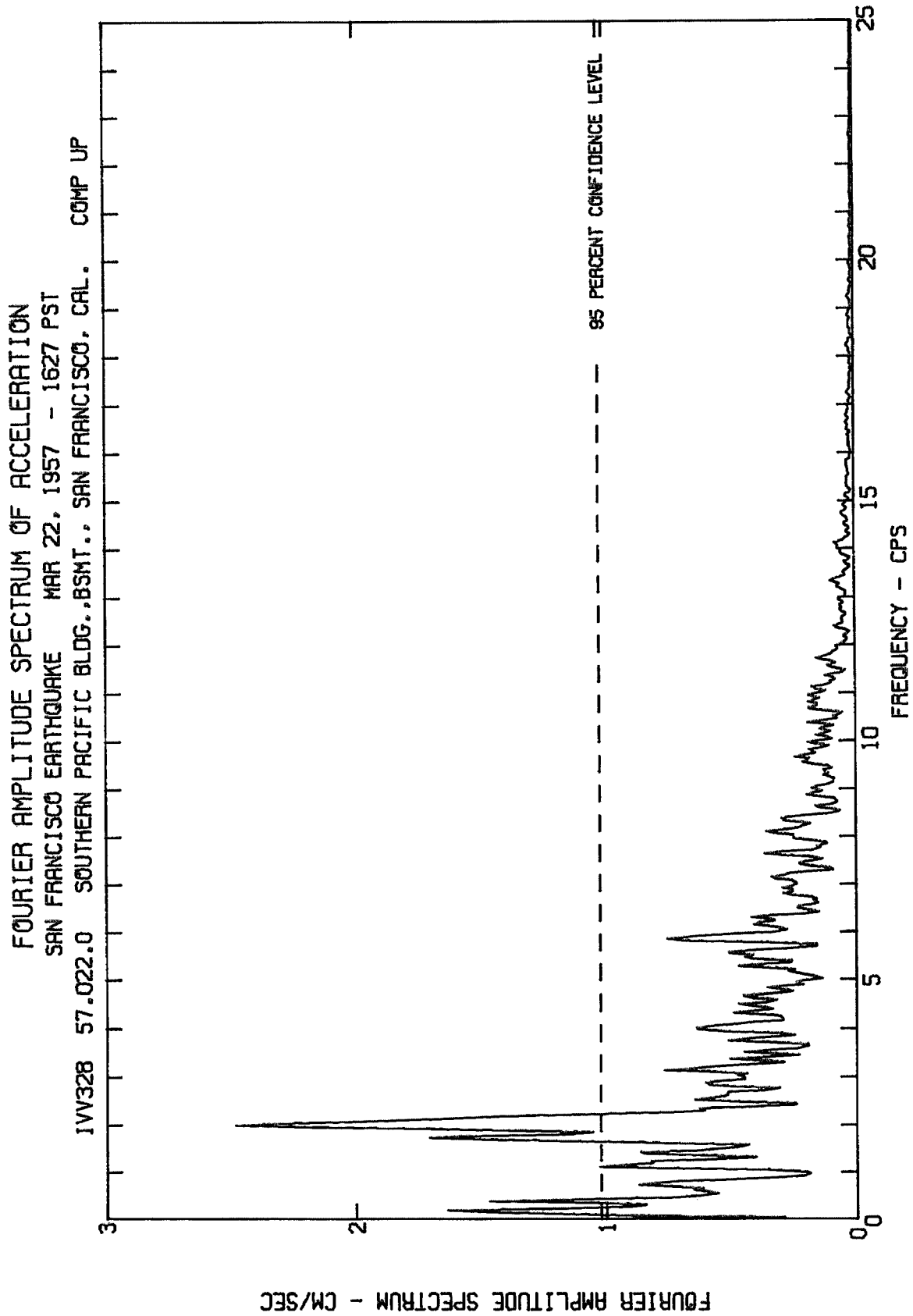
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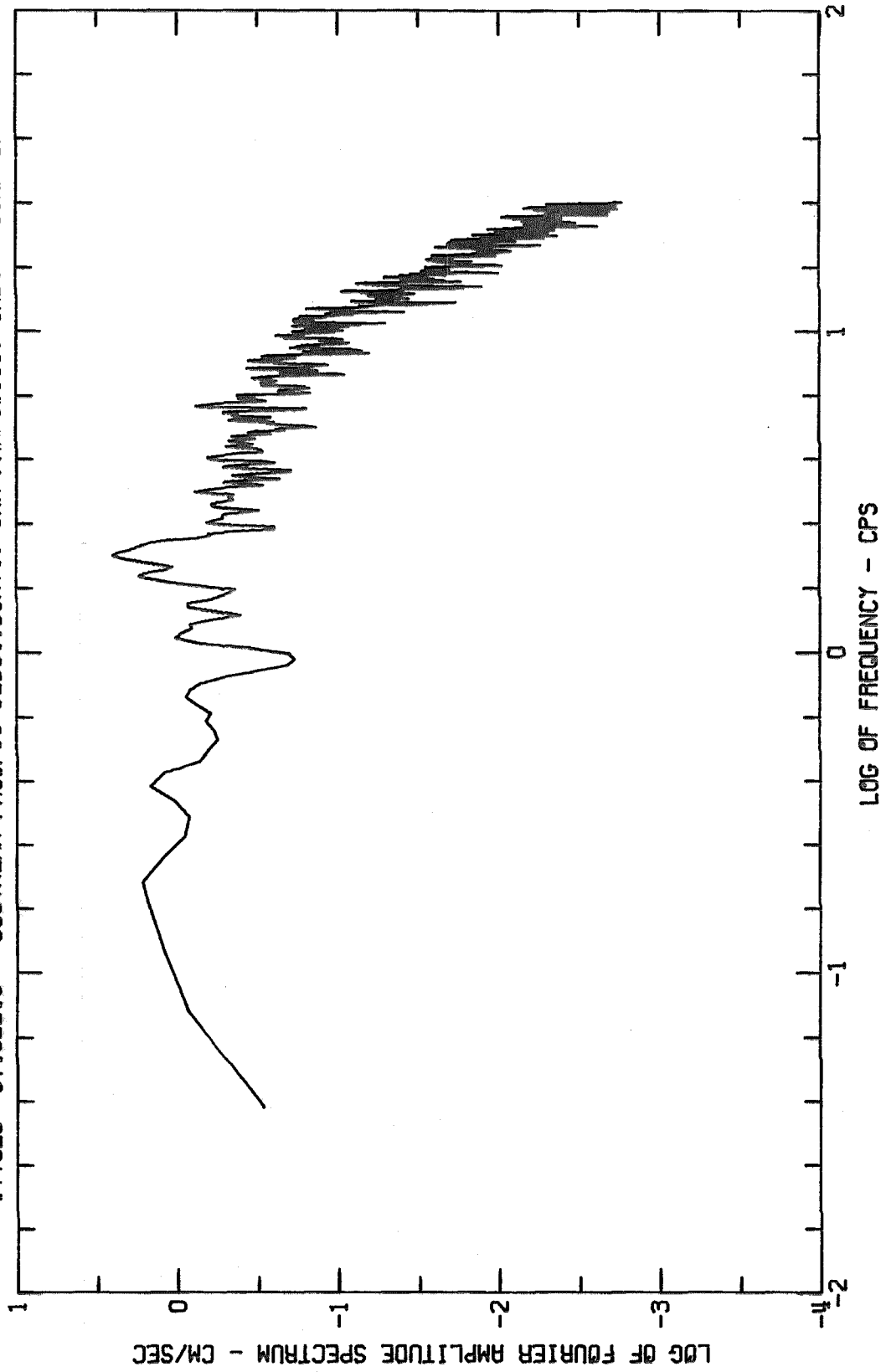


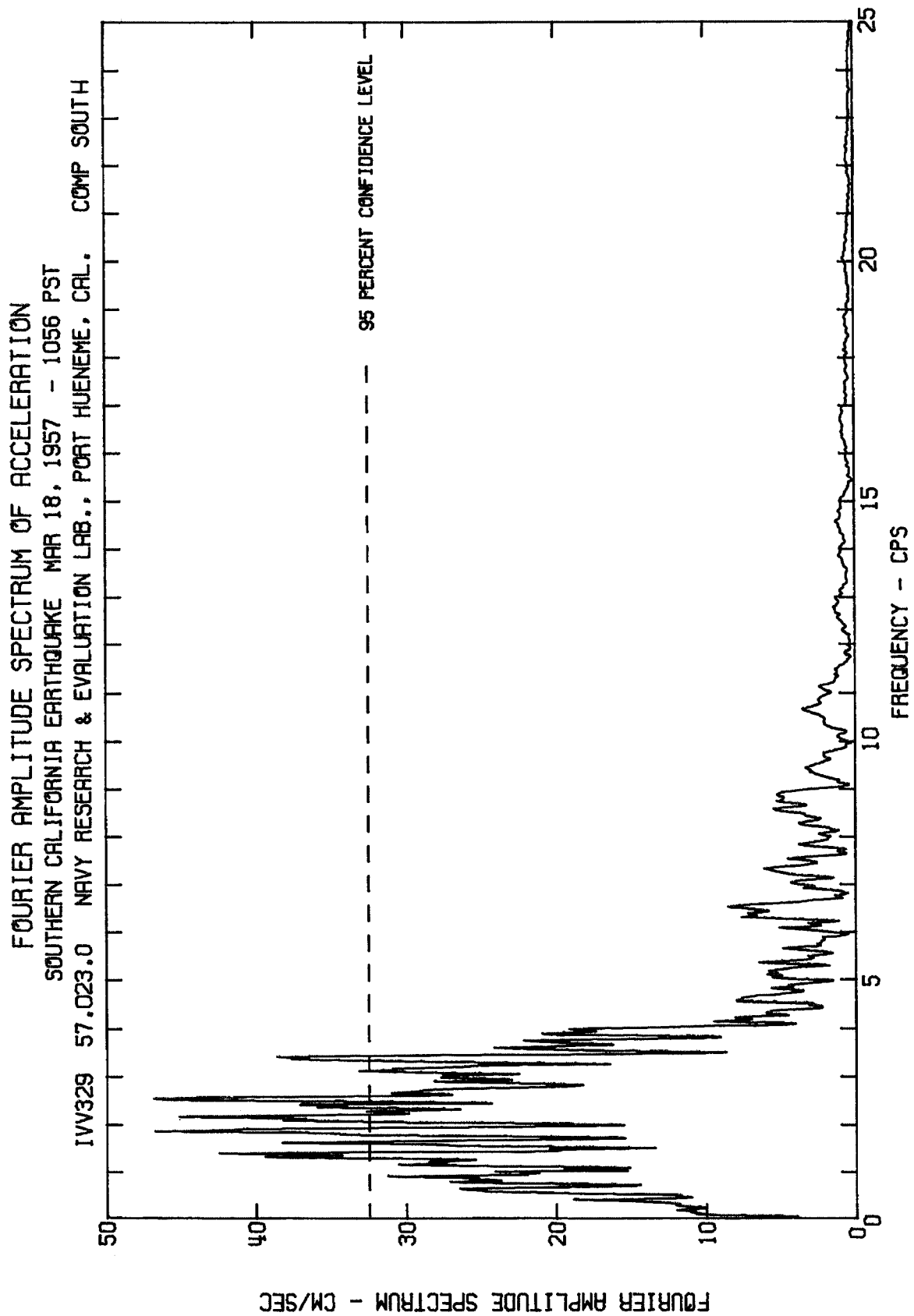
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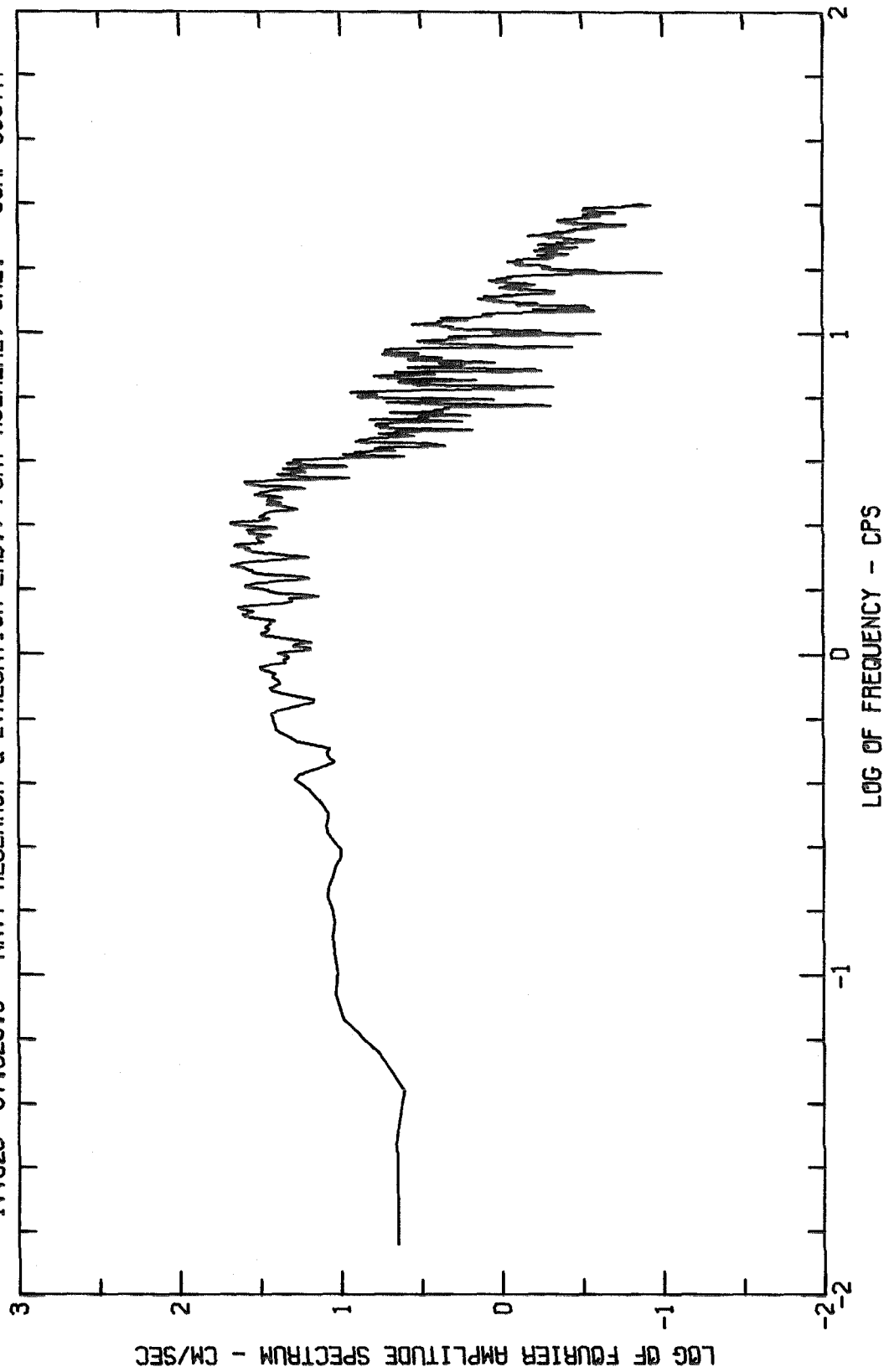


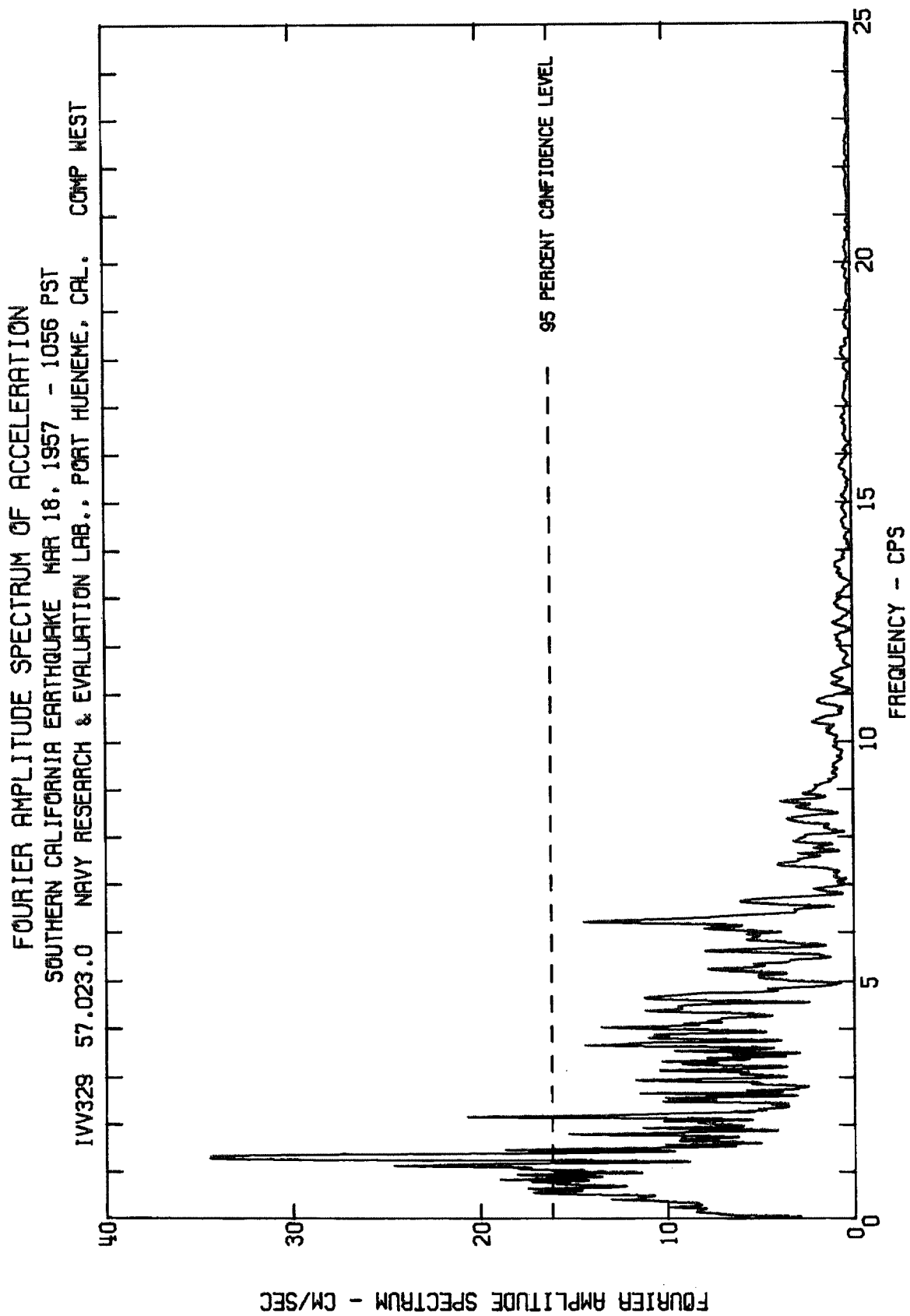
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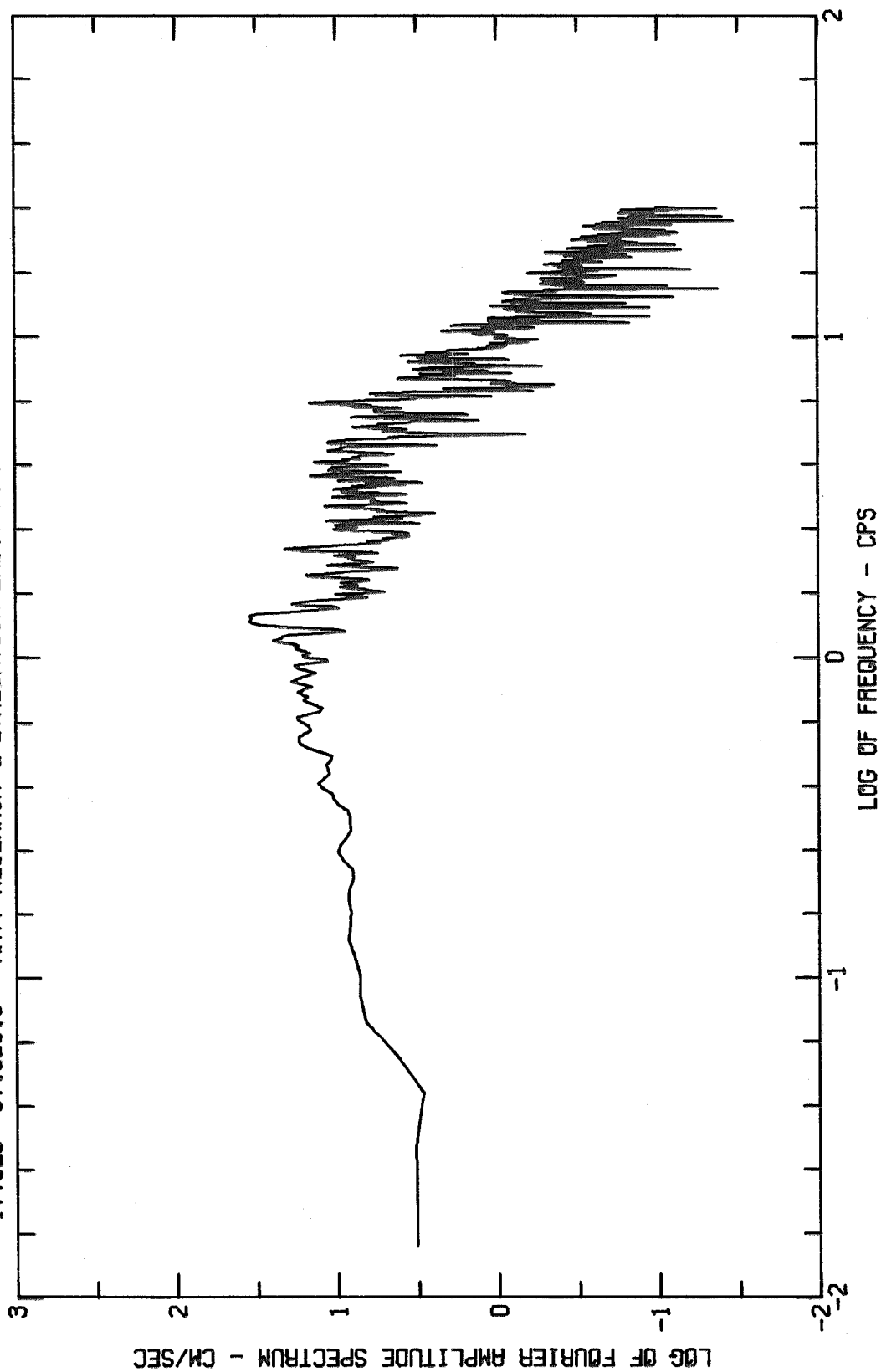


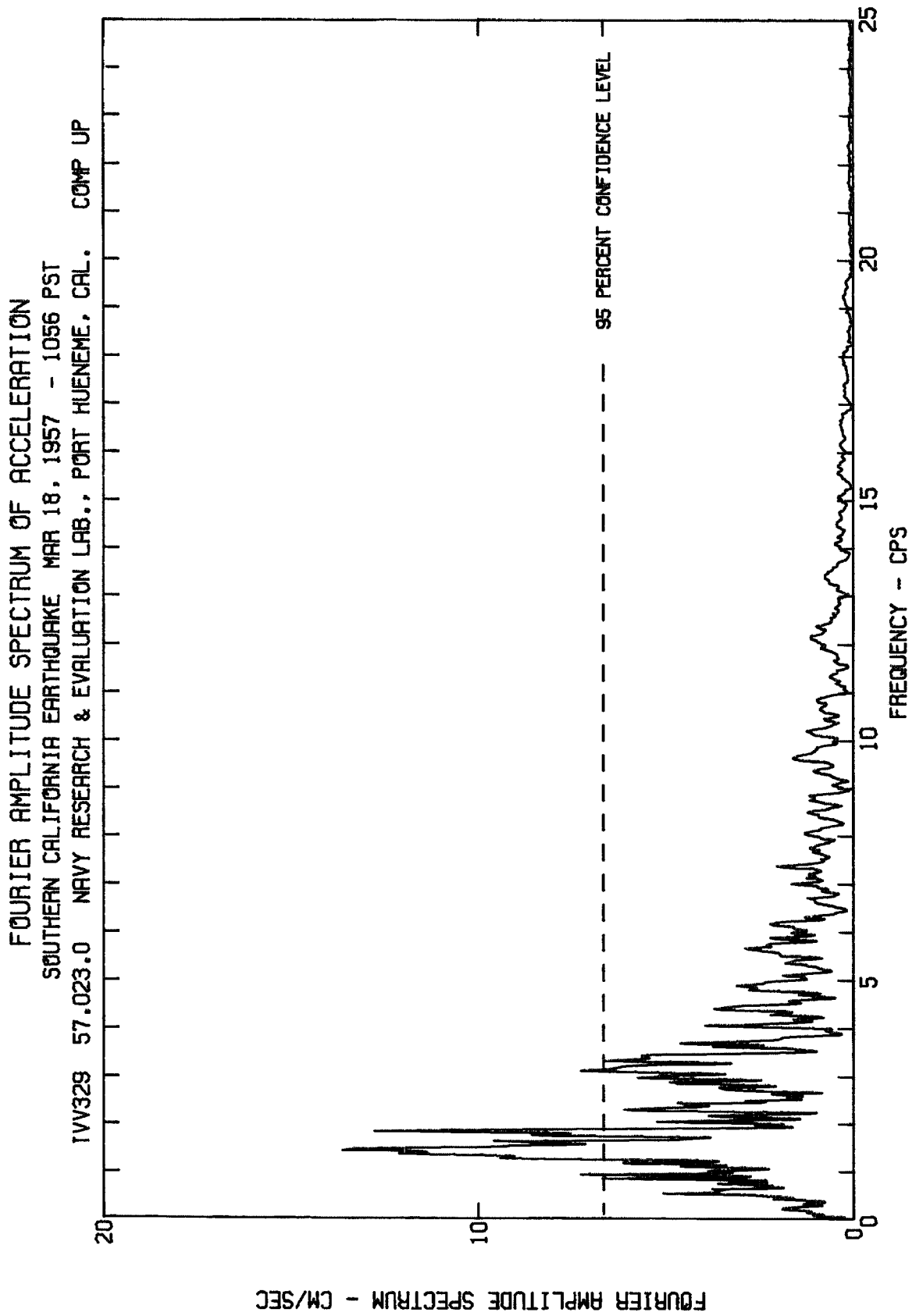
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SOUTHERN CALIFORNIA EARTHQUAKE MAR 18, 1957 - 1056 PST
IWV329 57.023.0 NAVY RESEARCH & EVALUATION LAB., PORT HUENEME, CAL. COMP SOUTH



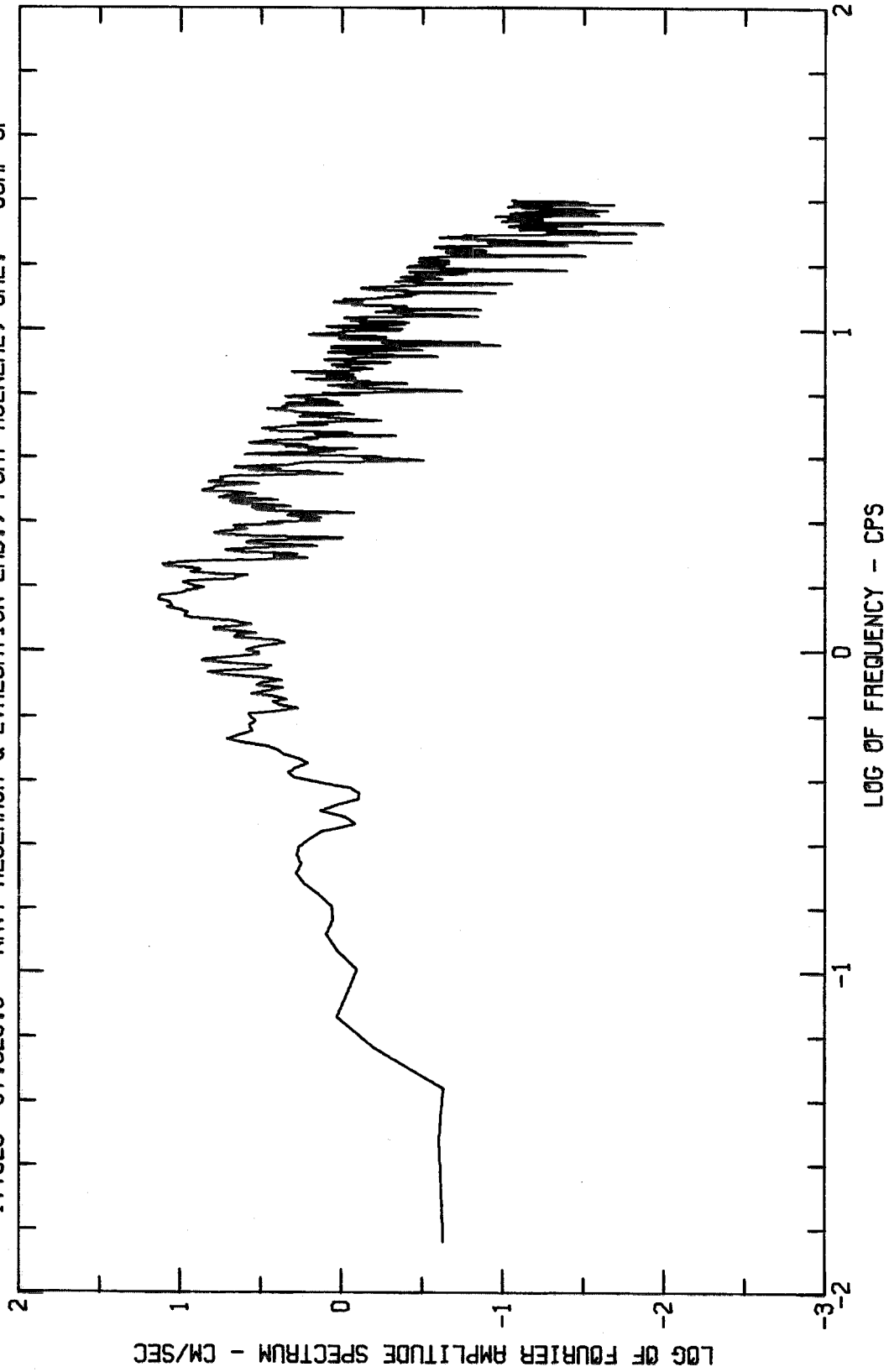


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SOUTHERN CALIFORNIA EARTHQUAKE MAR 18, 1957 - 1056 PST
IWW329 57.023.0 NAVY RESEARCH & EVALUATION LAB., PORT HUENEME, CAL. COMP WEST

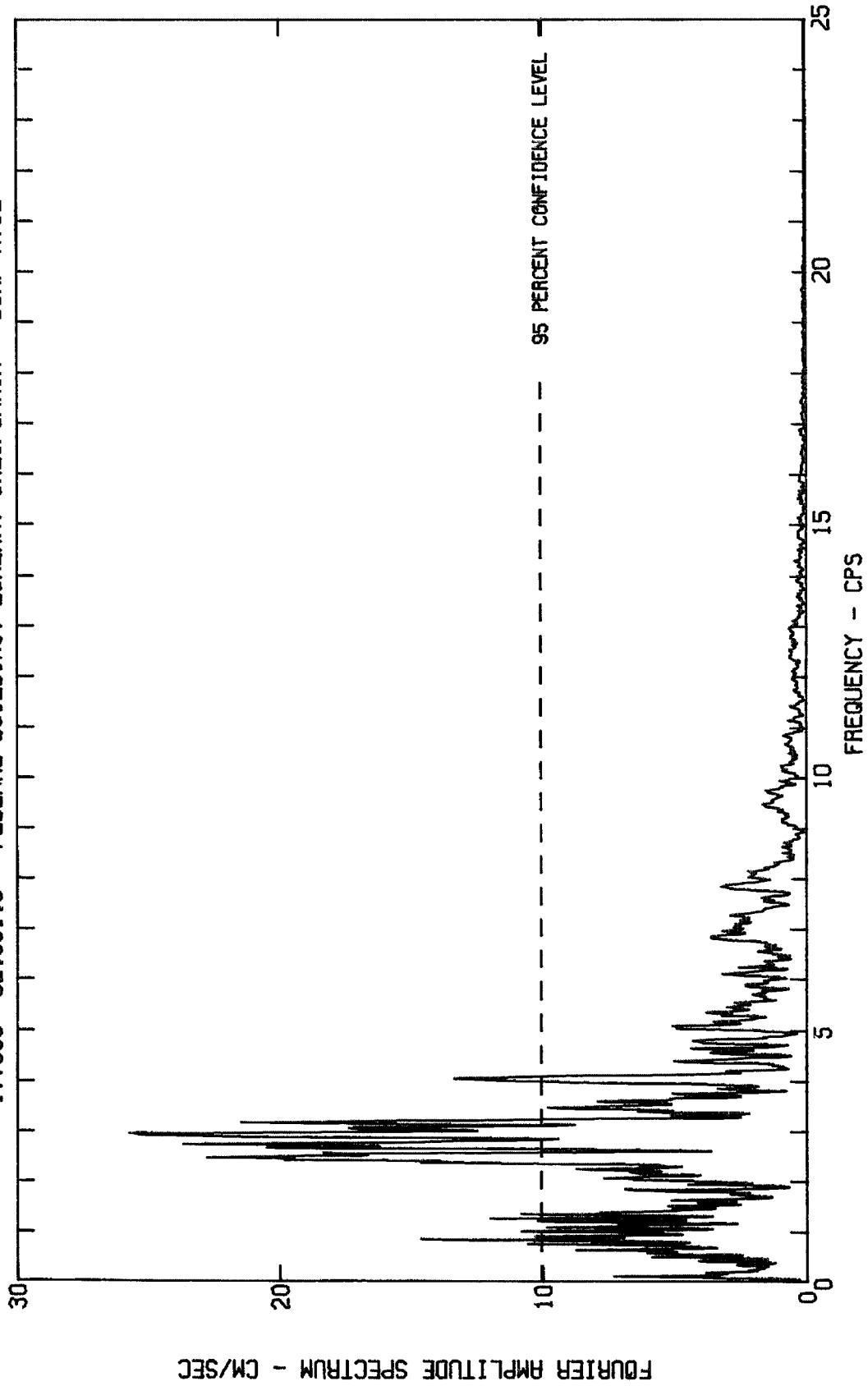




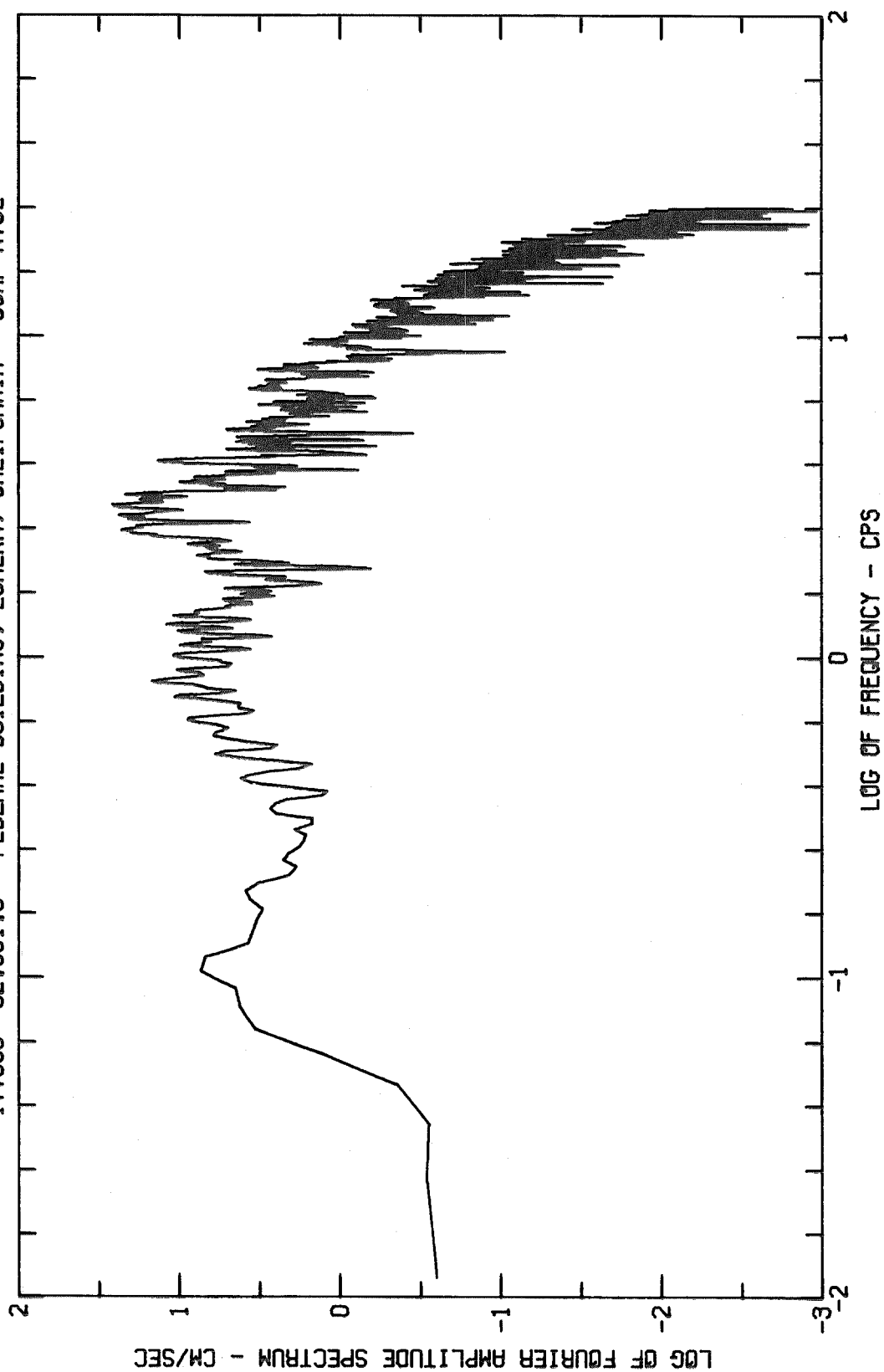
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
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IVV329 57.023.0 NAVY RESEARCH & EVALUATION LAB., PORT HUENEME, CAL. COMP UP



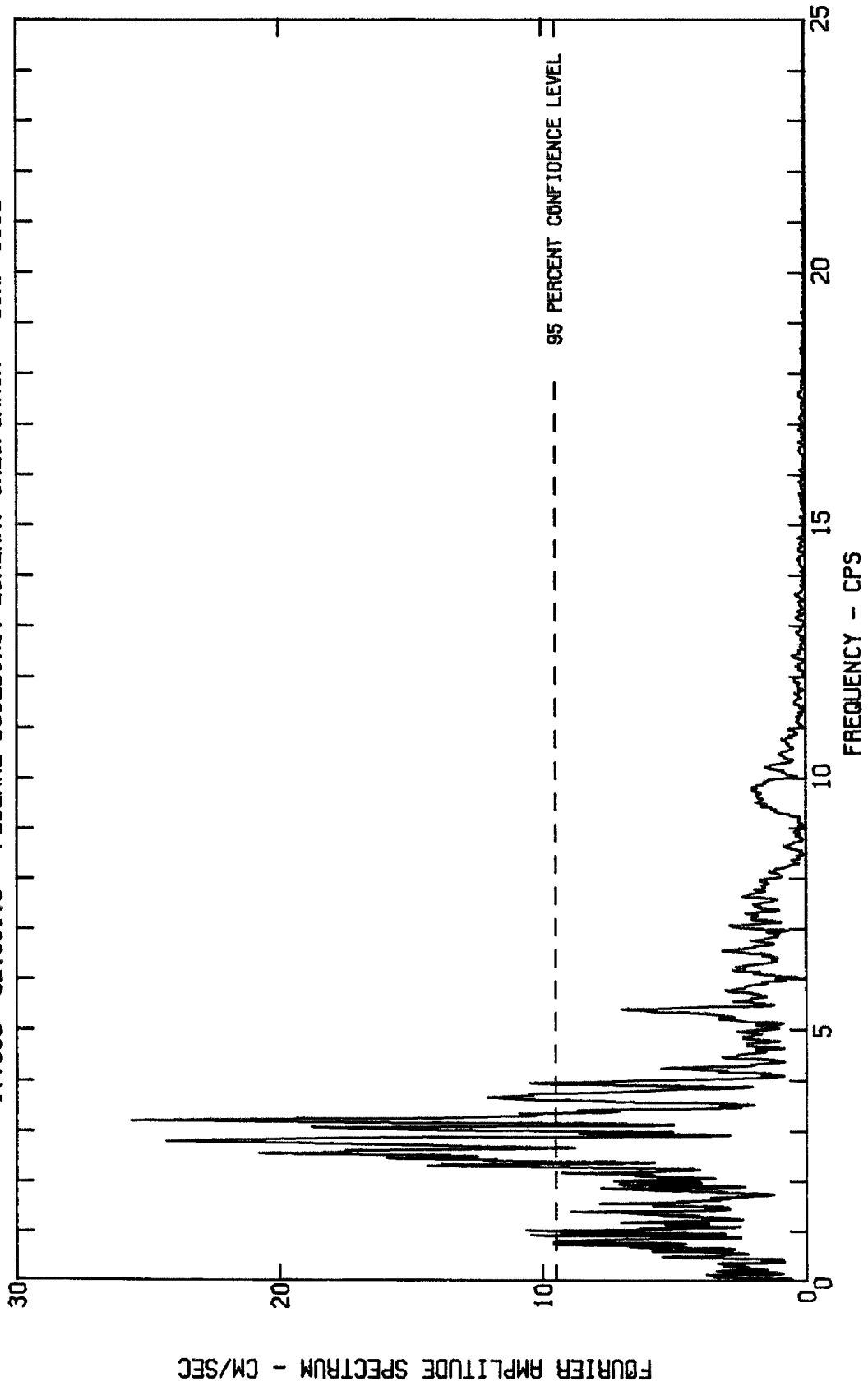
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
NORTHERN CALIFORNIA EARTHQUAKE SEPT 4, 1962 - 0917 PST
IWV330 62.001.0 FEDERAL BUILDING, EUREKA, CALIFORNIA COMP N79E



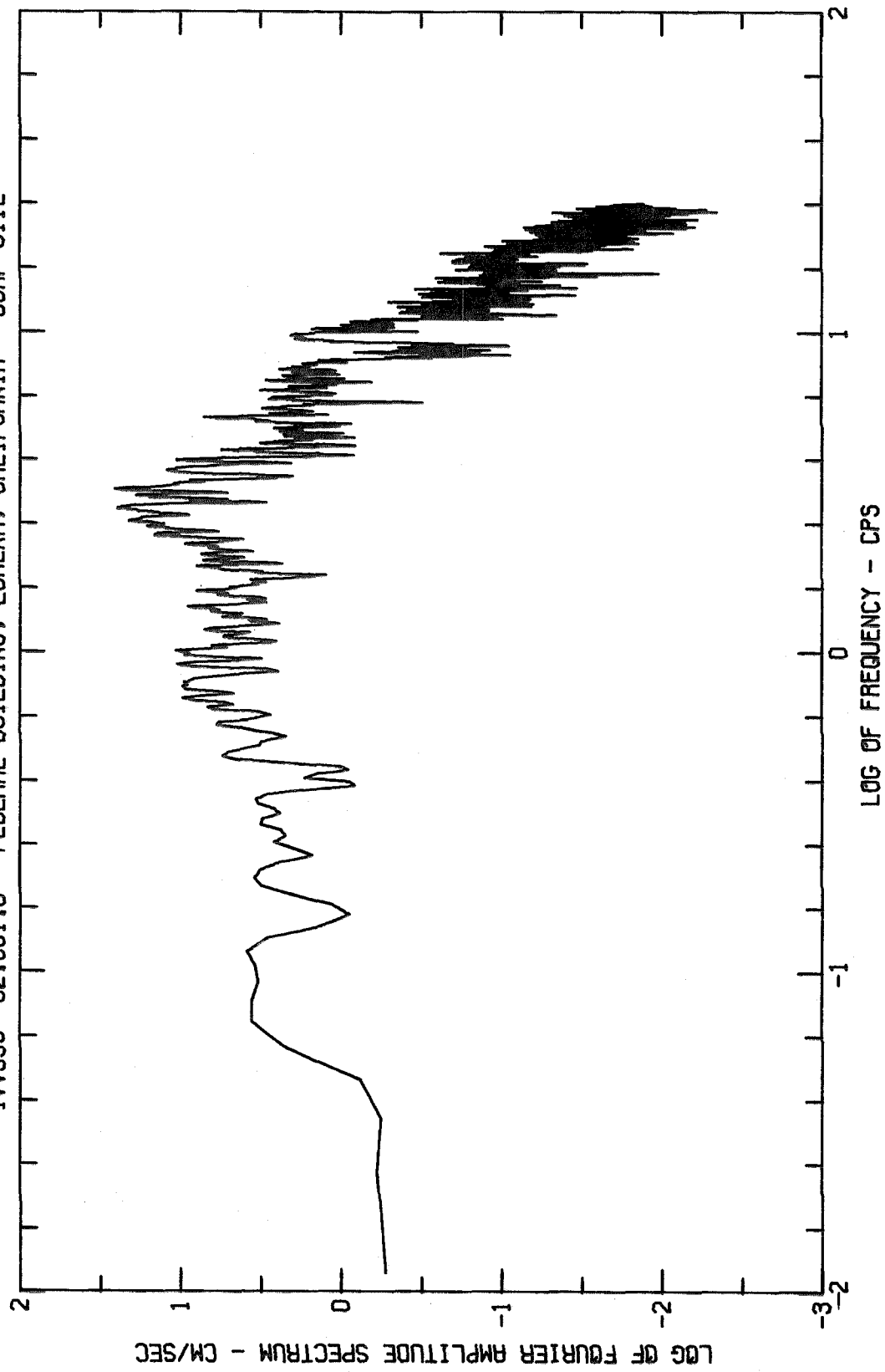
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
NORTHERN CALIFORNIA EARTHQUAKE SEPT 4, 1962 - 0917 PST
1VV330 62.001.0 FEDERAL BUILDING, EUREKA, CALIFORNIA COMP N79E



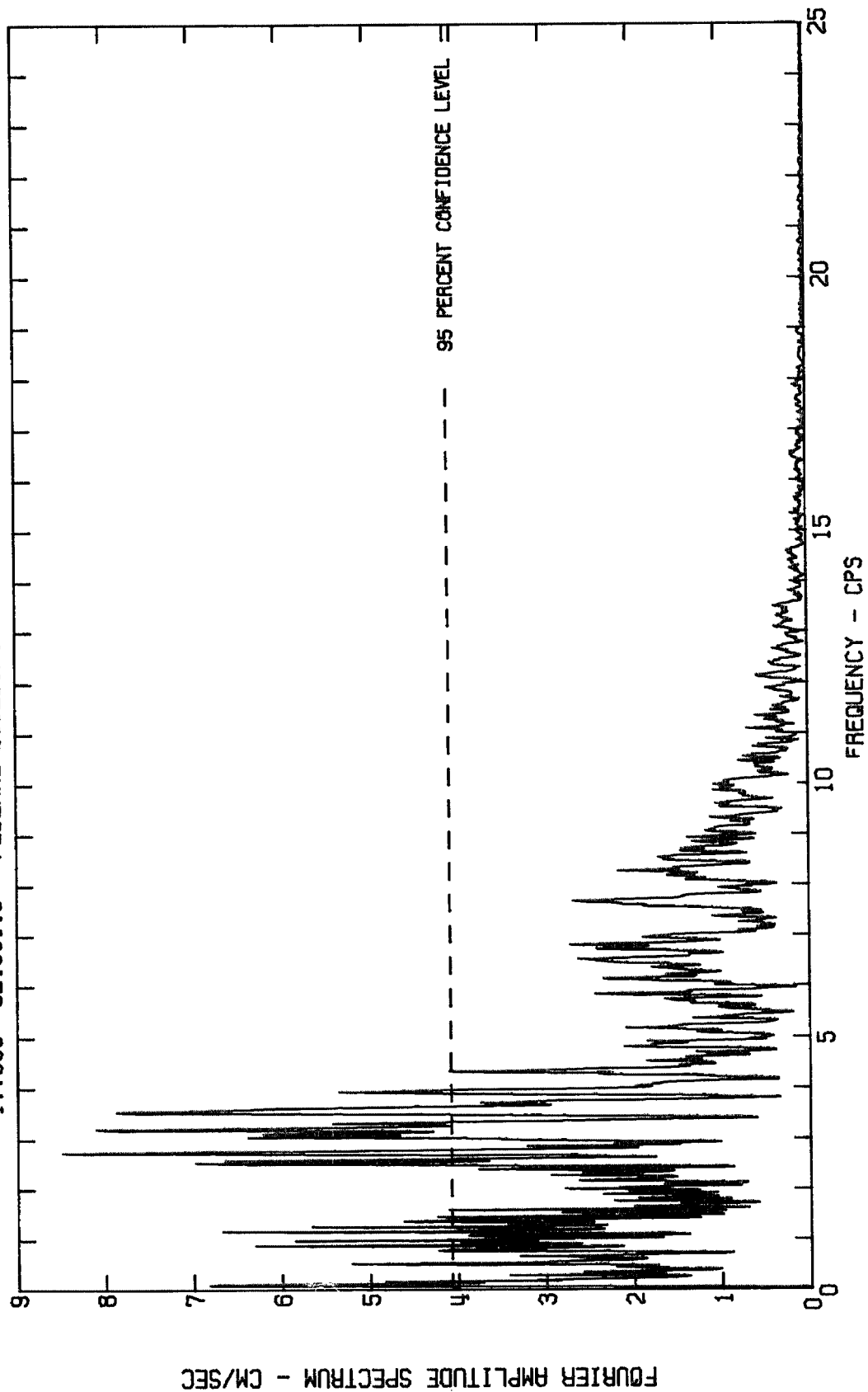
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
NORTHERN CALIFORNIA EARTHQUAKE SEPT 4, 1962 - 0917 PST
IWV330 62.001.0 FEDERAL BUILDING, EUREKA, CALIFORNIA COMP S11E



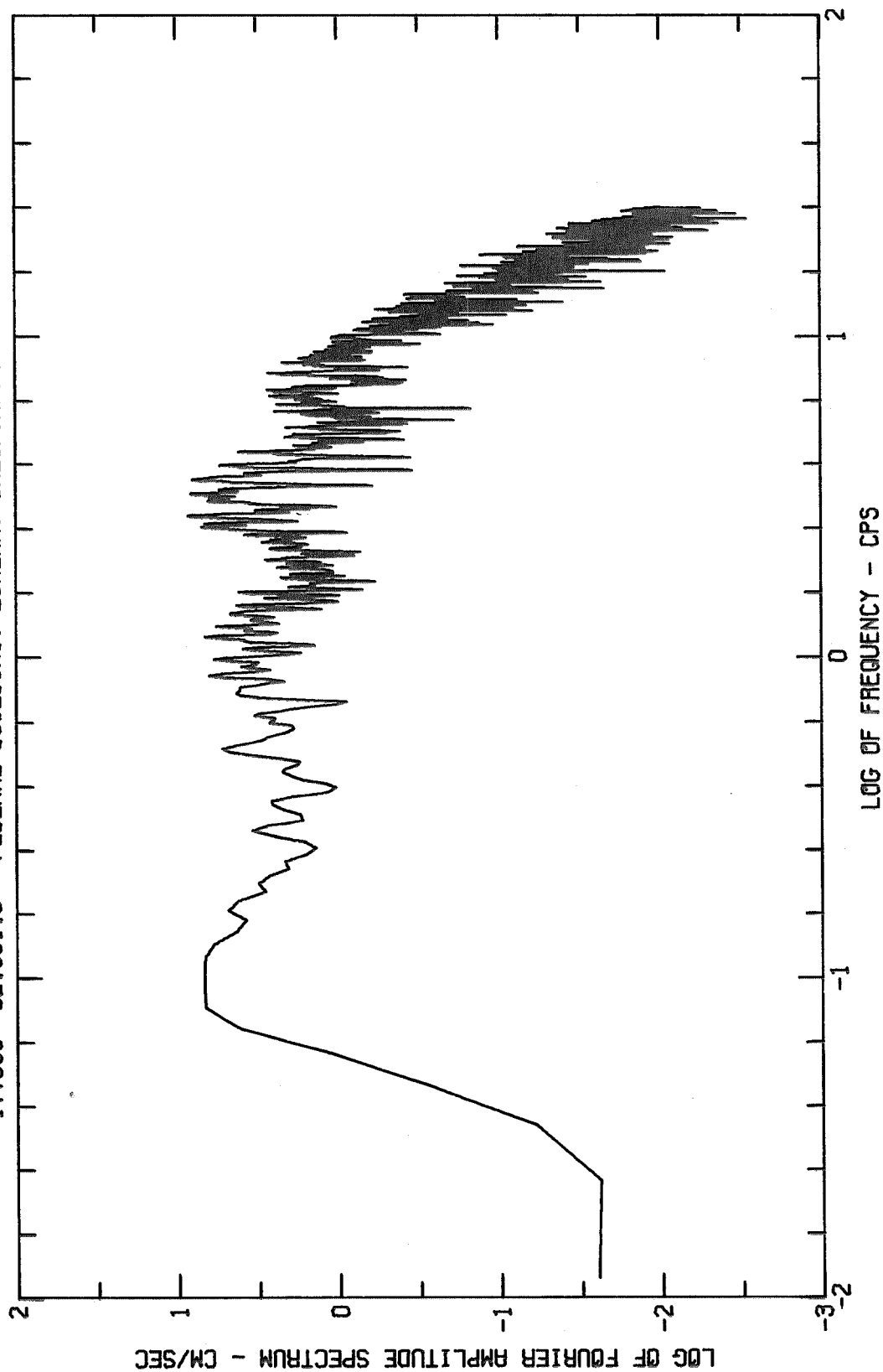
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IW330 62.001.0 FEDERAL BUILDING, EUREKA, CALIFORNIA COMP S11E

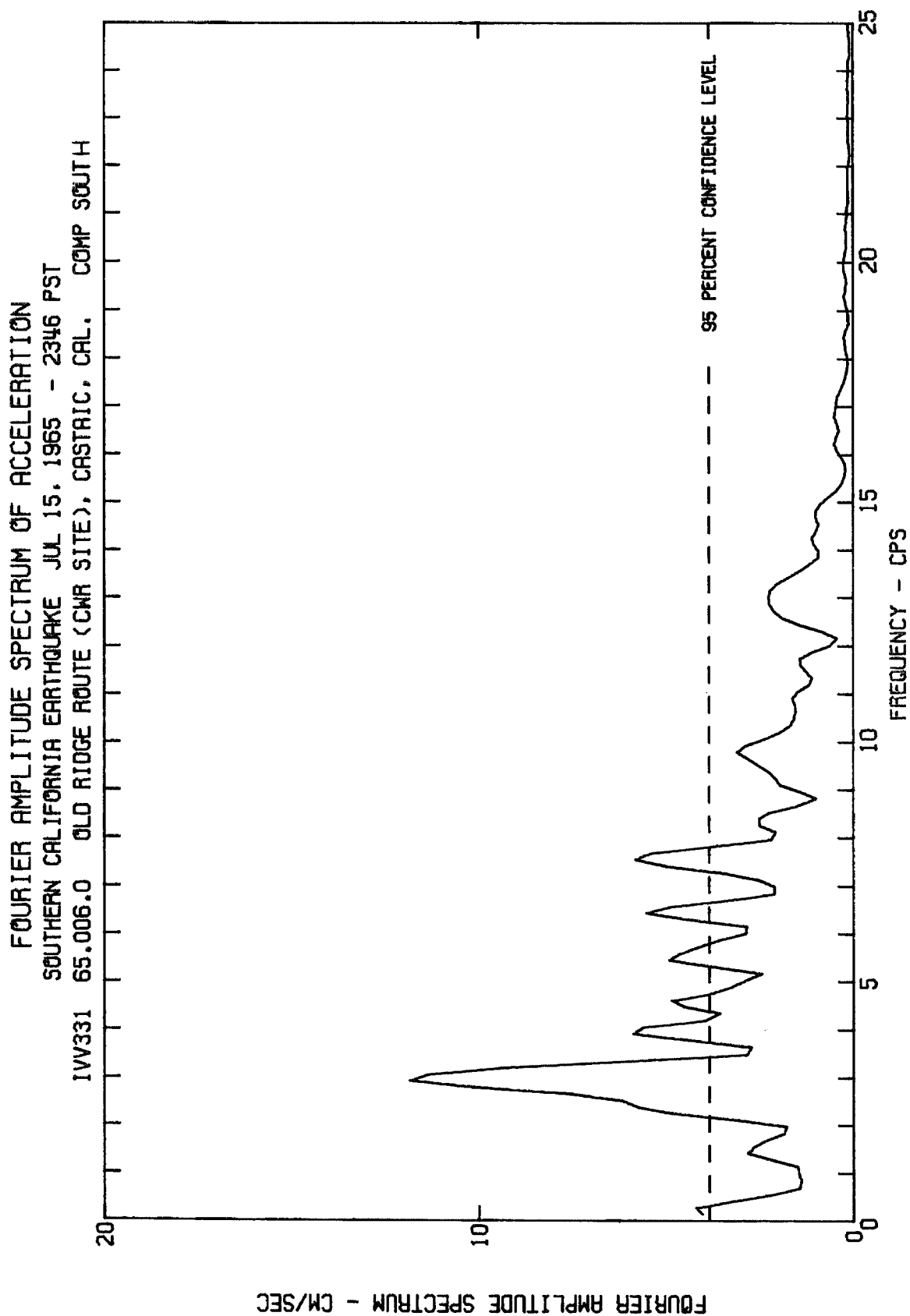


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
NORTHERN CALIFORNIA EARTHQUAKE SEPT 4, 1962 - 0917 PST
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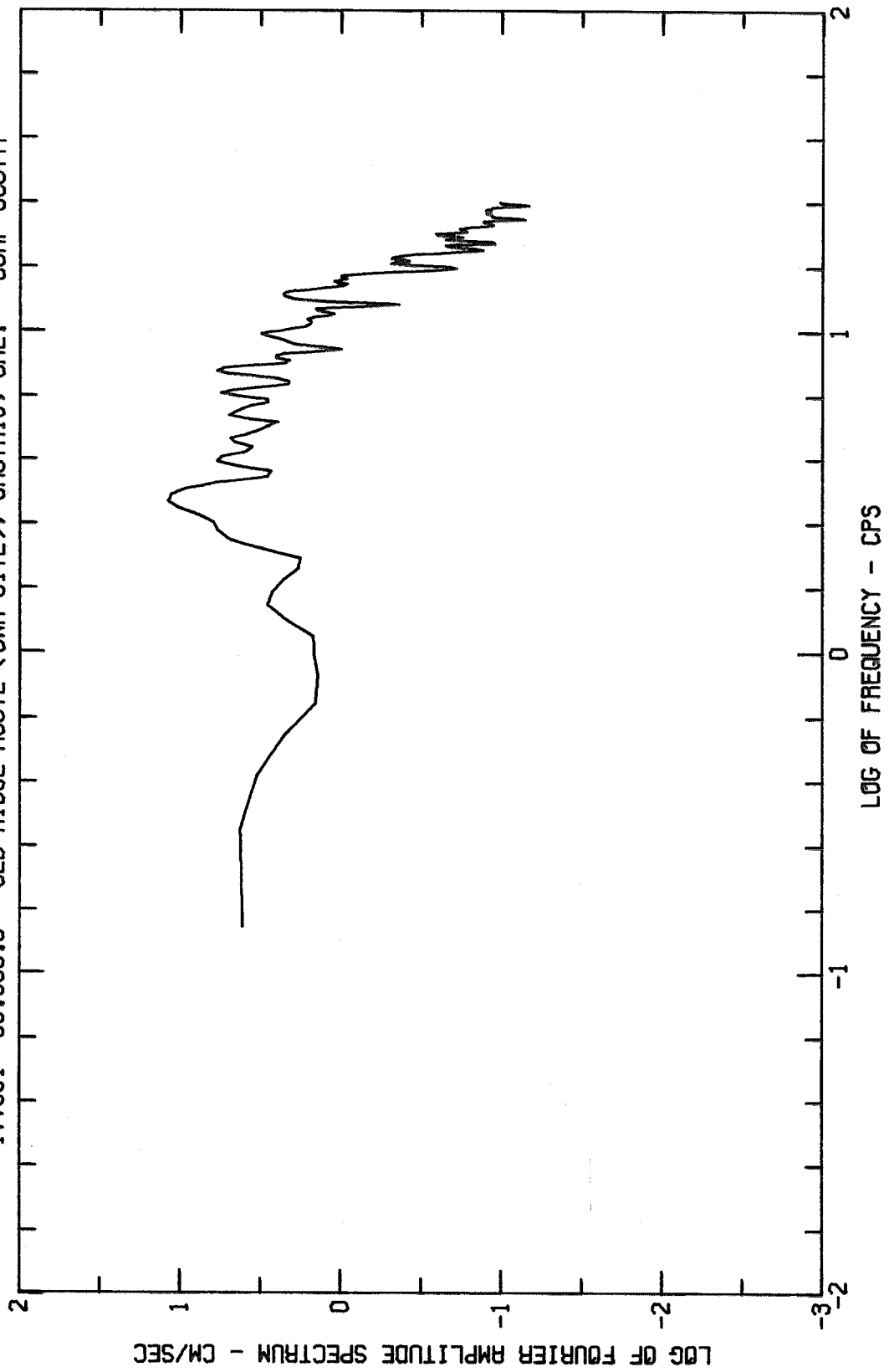


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
NORTHERN CALIFORNIA EARTHQUAKE SEPT 4, 1962 - 0917 PST
IWV330 62.001.0 FEDERAL BUILDING, EUREKA, CALIFORNIA COMP UP

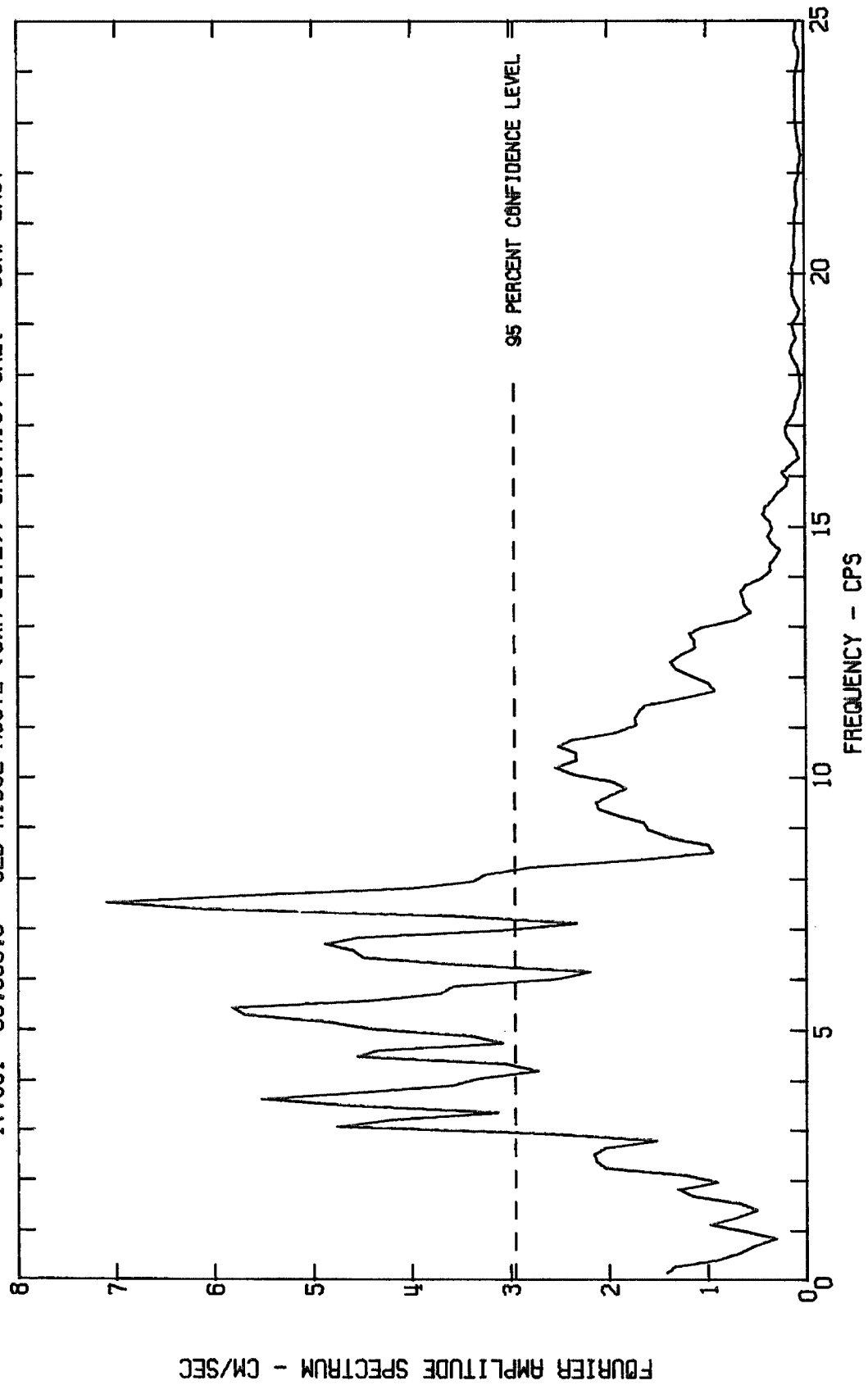




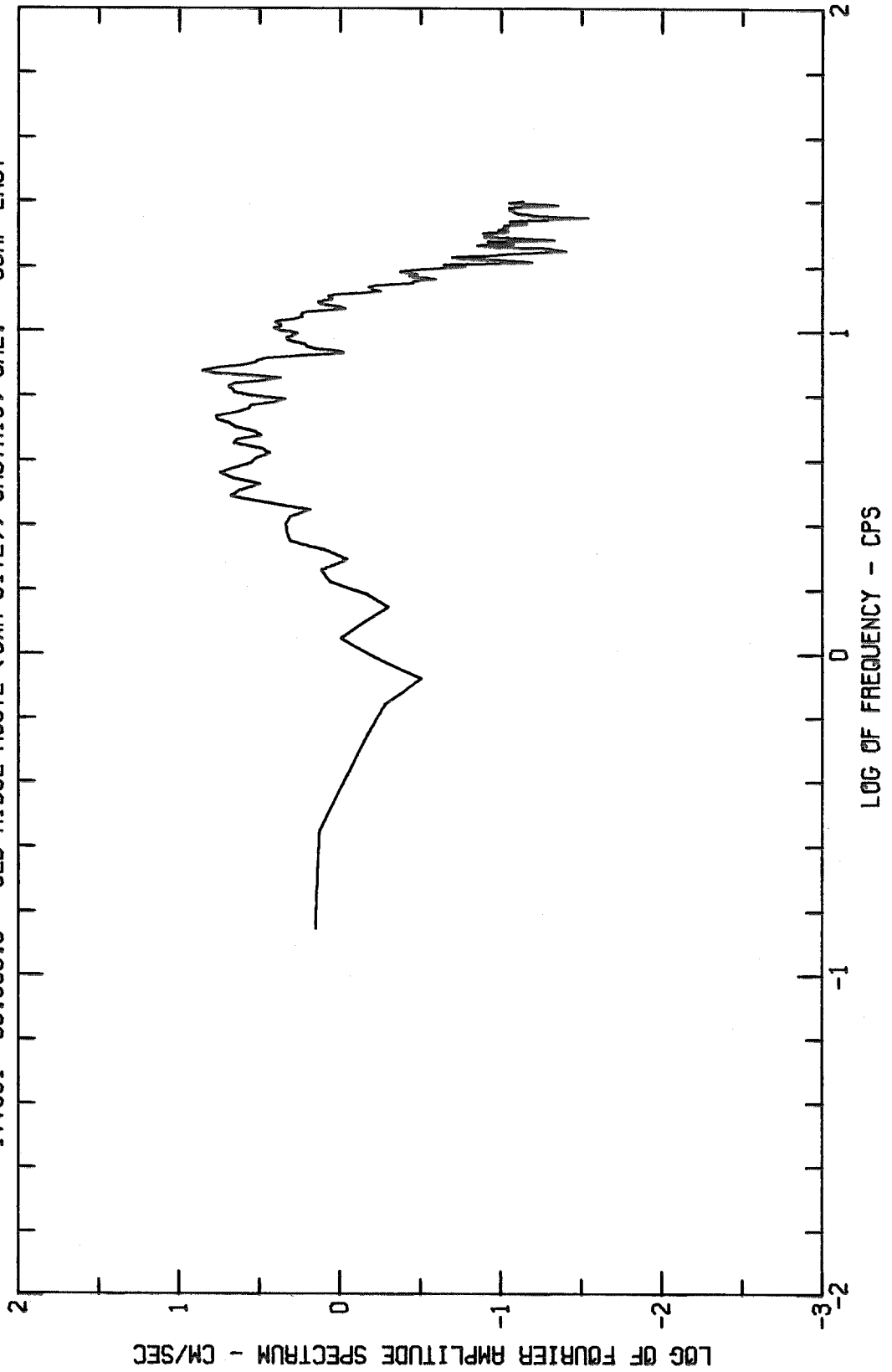
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SOUTHERN CALIFORNIA EARTHQUAKE JUL 15, 1965 - 2346 PST
1VW331 65.006.0 OLD RIDGE ROUTE (CWR SITE), CASTAIC, CAL. COMP SOUTH

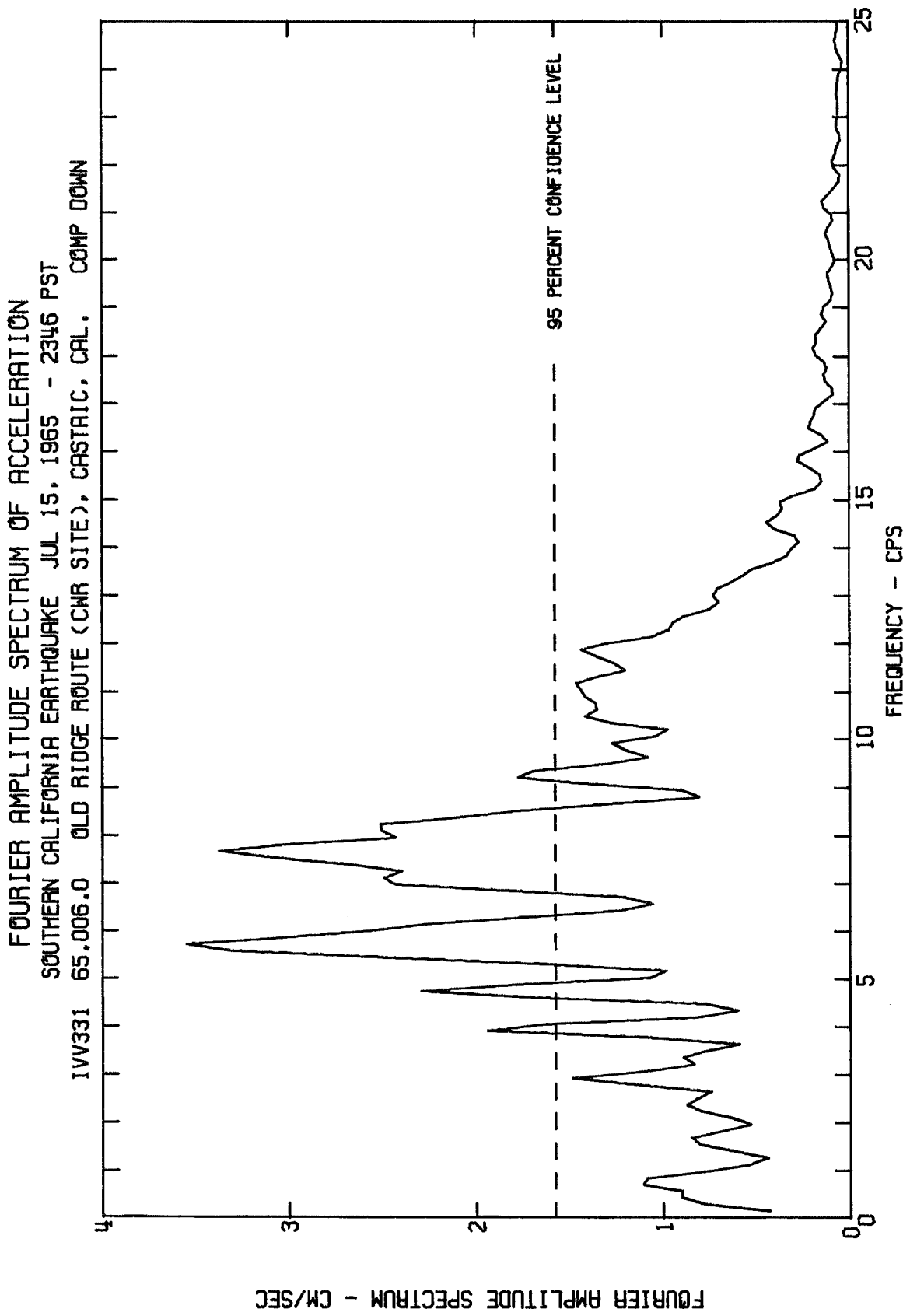


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SOUTHERN CALIFORNIA EARTHQUAKE JUL 15, 1965 - 2346 PST
1VV331 65.006.0 OLD RIDGE ROUTE (CNR SITE), CASTAIC, CAL. COMP EAST

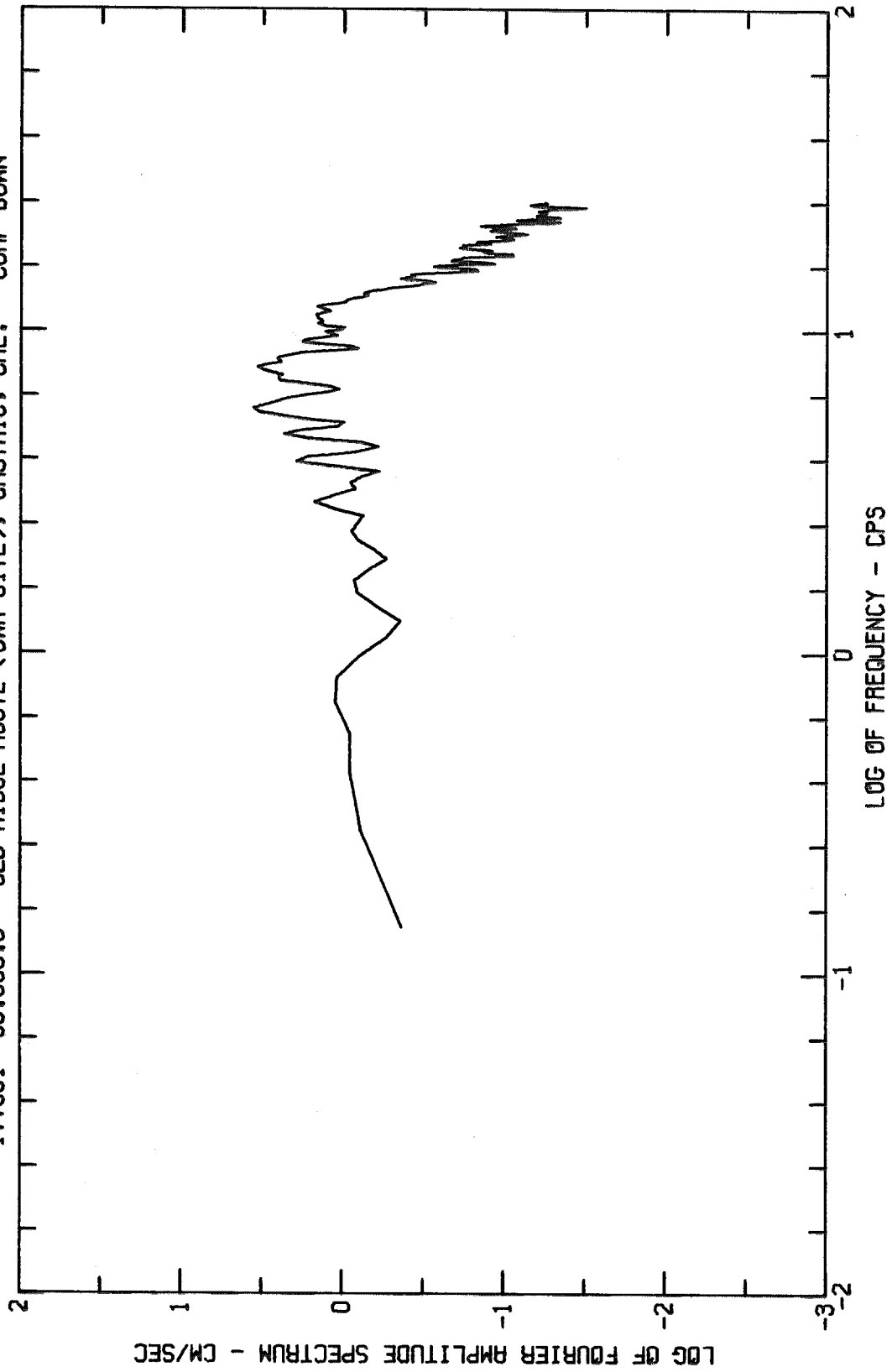


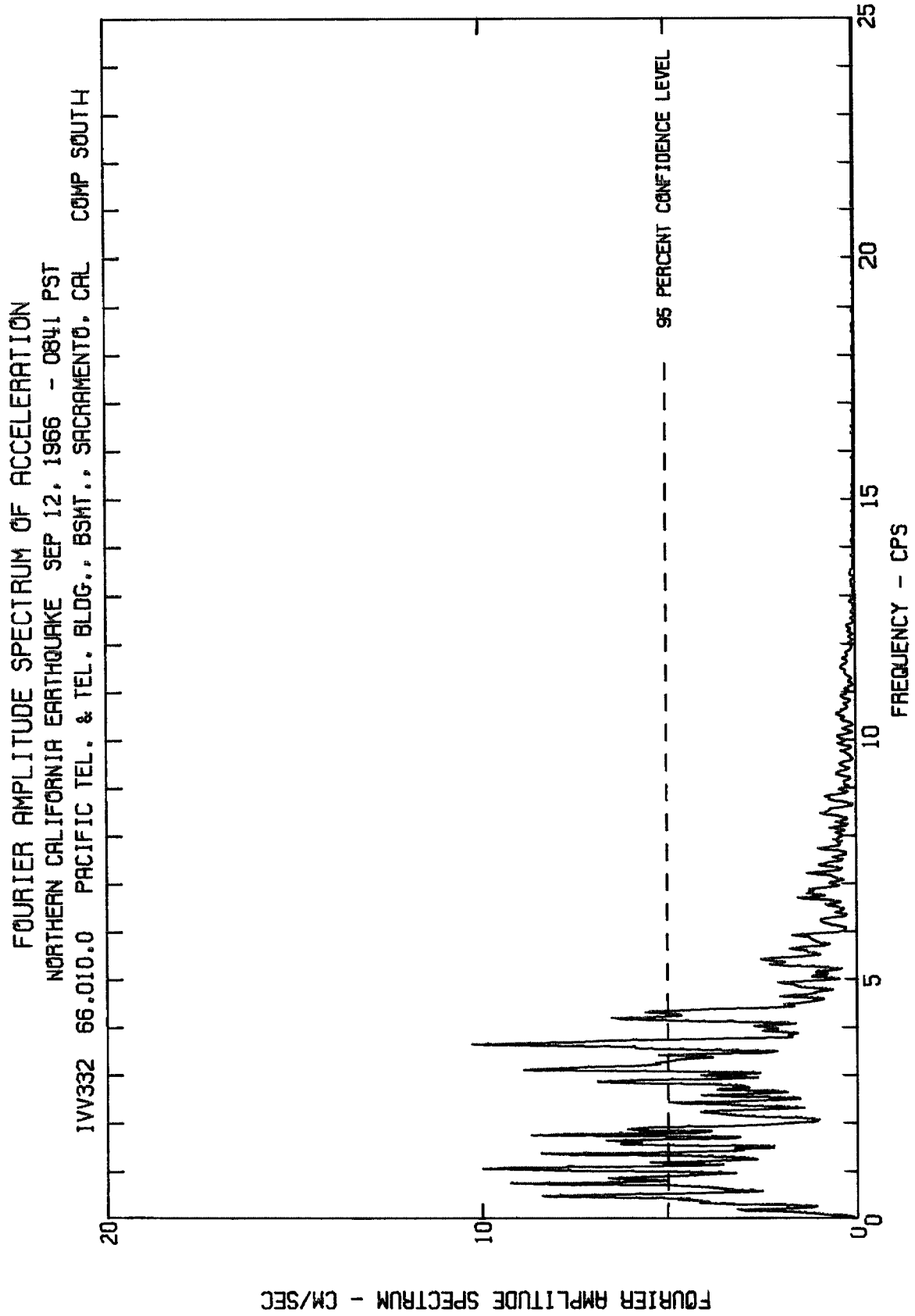
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SOUTHERN CALIFORNIA EARTHQUAKE JUL 15, 1965 - 2346 PST
1VW331 65.006.0 OLD RIDGE ROUTE (CNR SITE), CASTAIC, CAL. COMP EAST



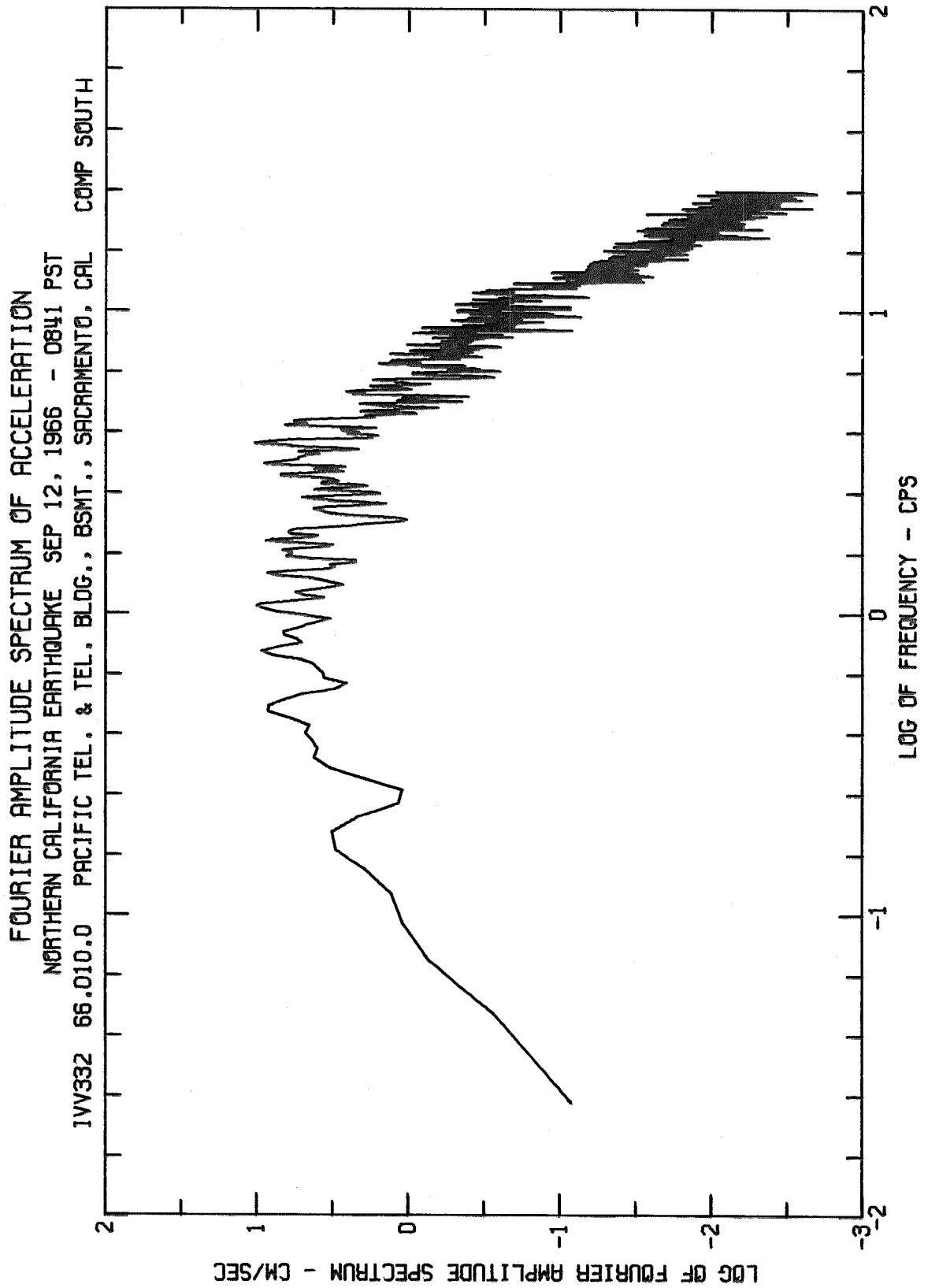


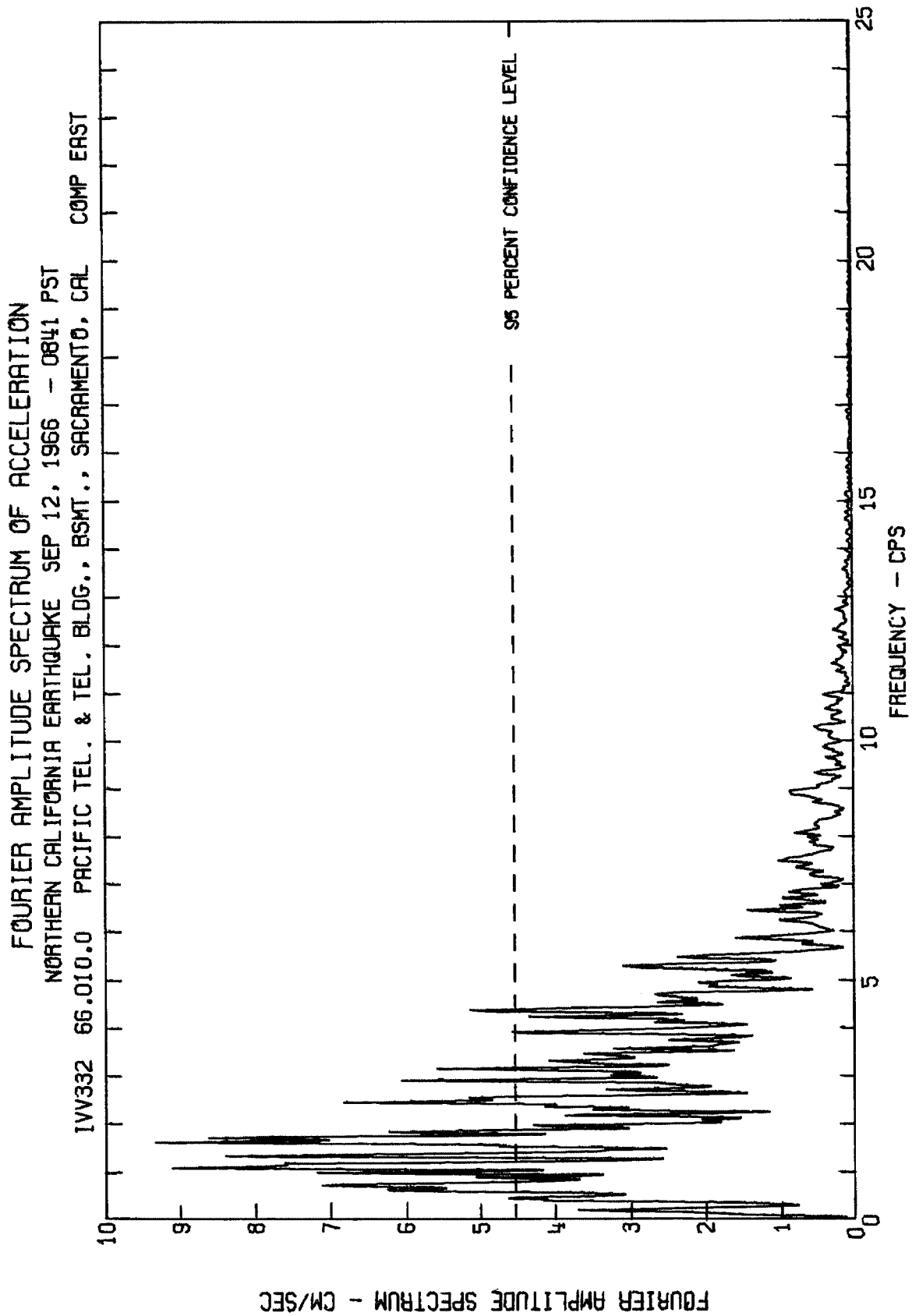
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
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IWV331 65.006.0 OLD RIDGE ROUTE (CHR SITE), CASTAIC, CAL. COMP DOWN



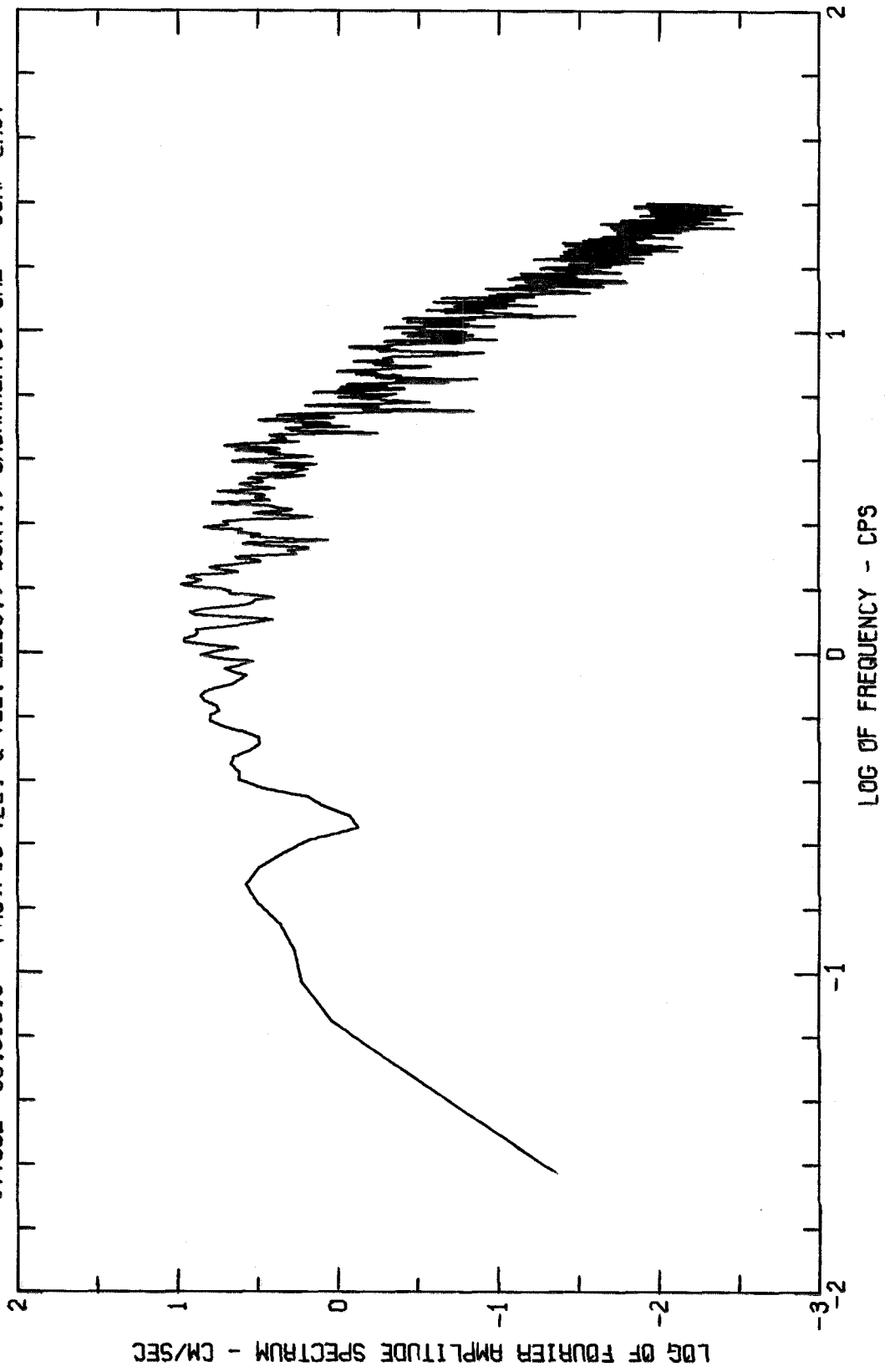


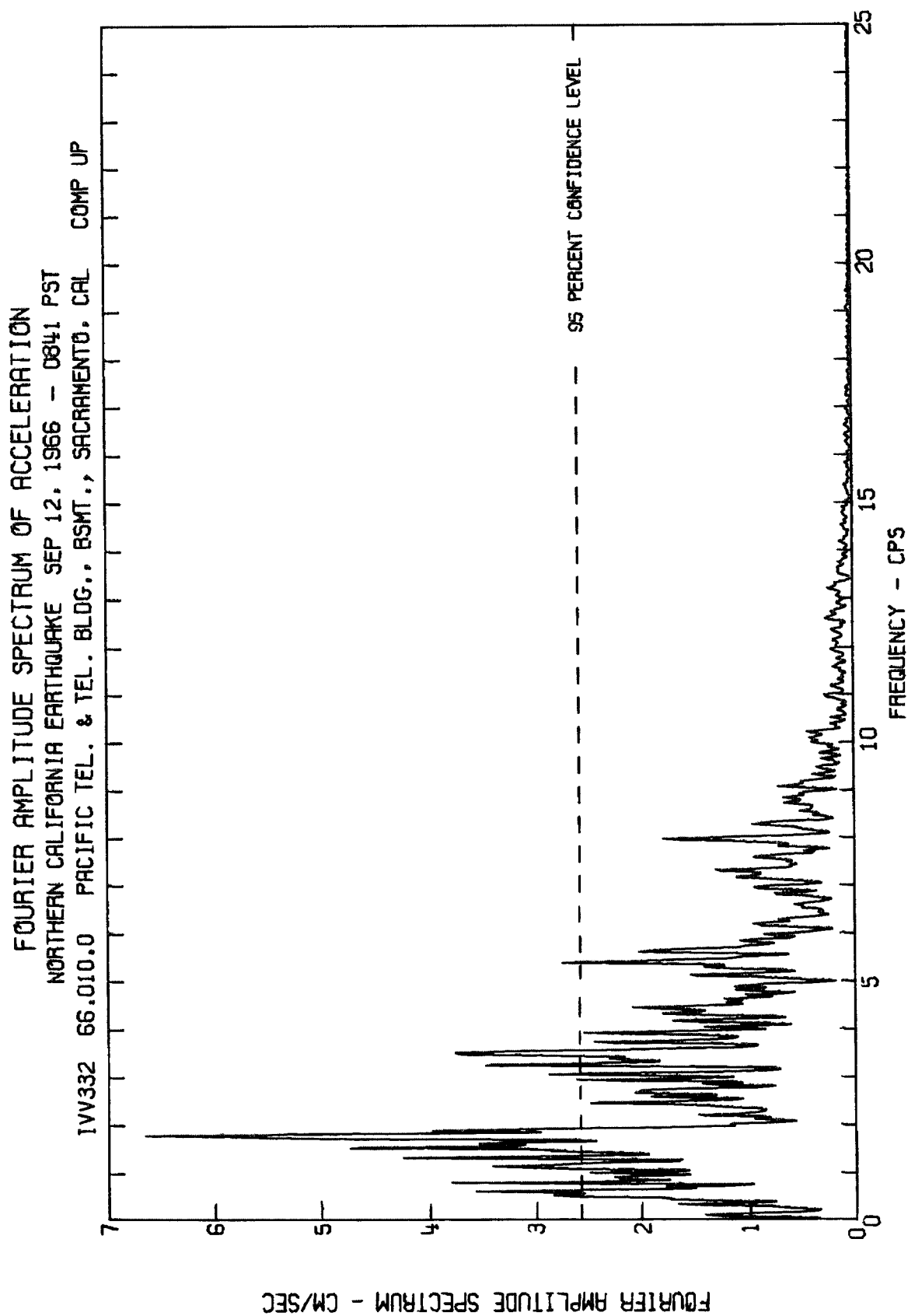
FOURIER AMPLITUDE SPECTRUM - CM/SEC

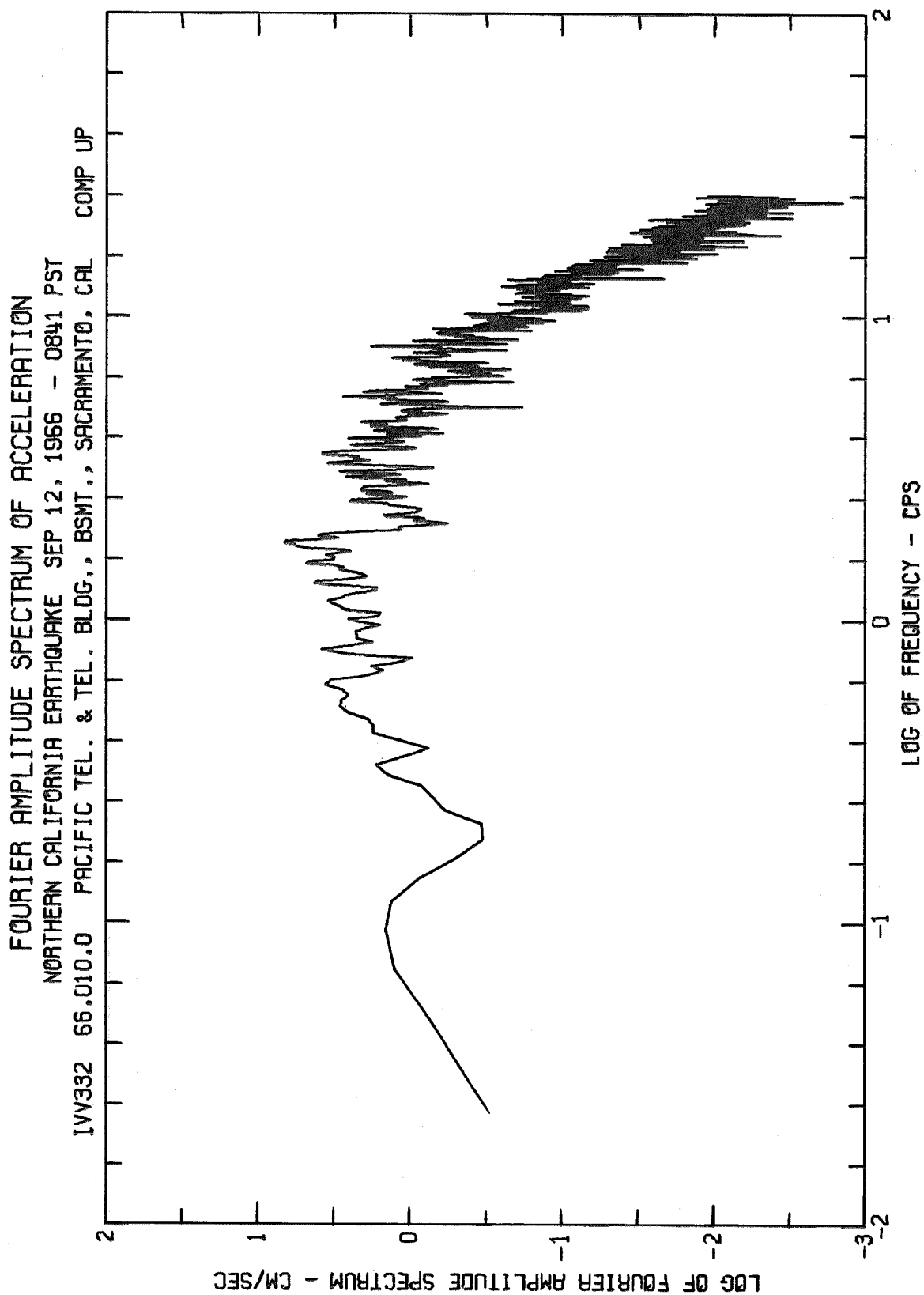


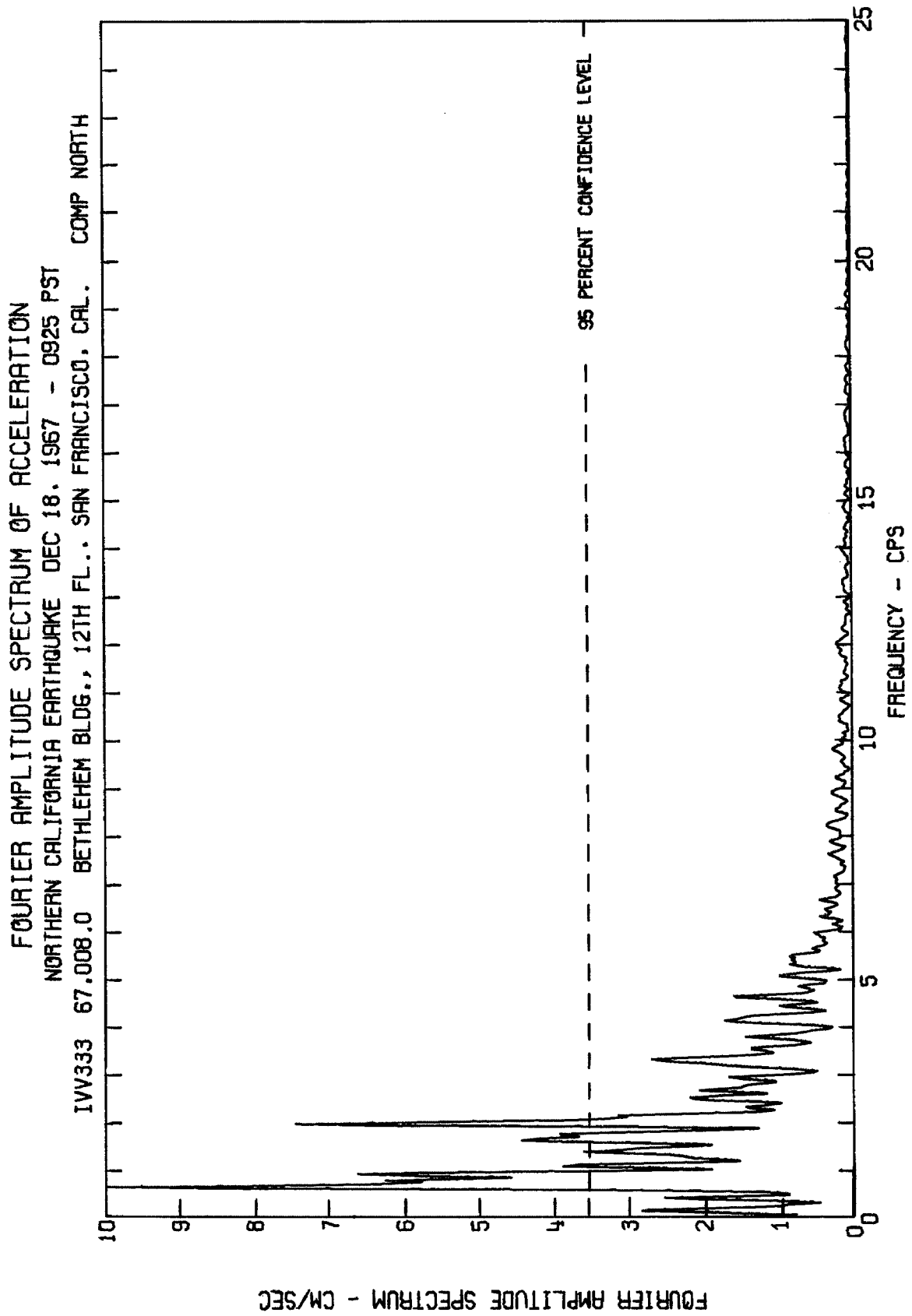


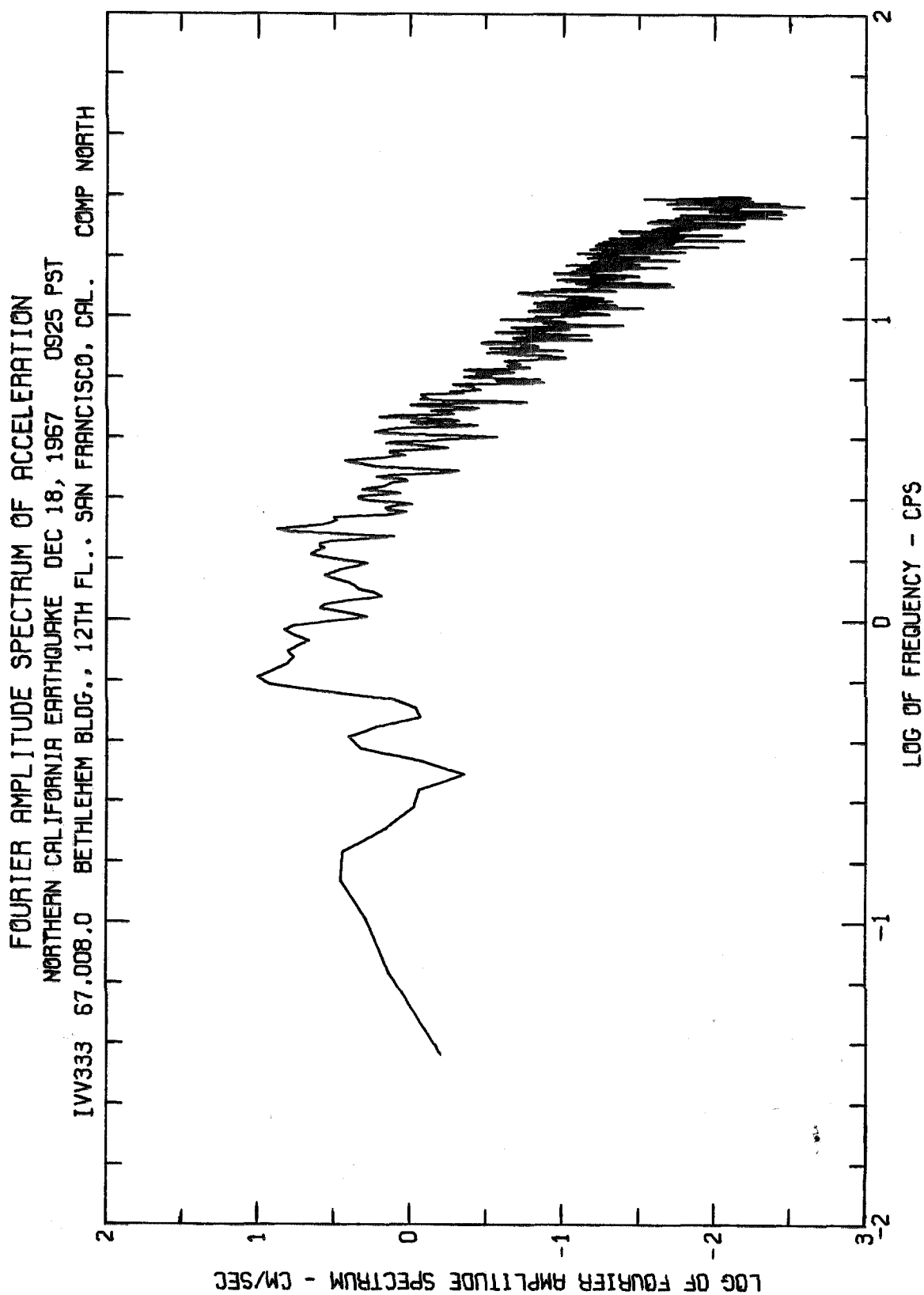
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
NORTHERN CALIFORNIA EARTHQUAKE SEP 12, 1966 - 0841 PST
1W332 66.010.0 PACIFIC TEL. & TEL. BLDG., BSMT., SACRAMENTO, CAL COMP EAST

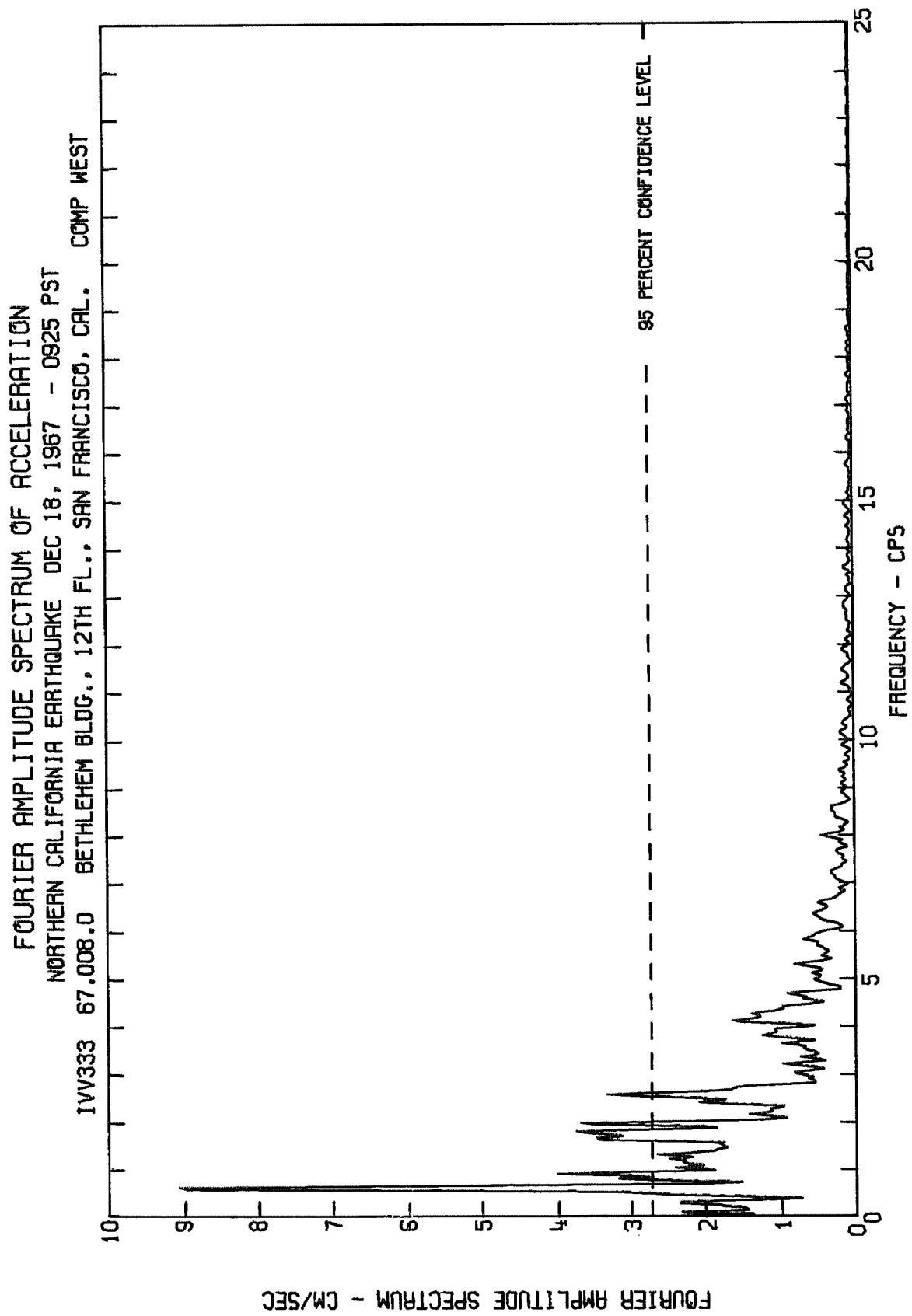




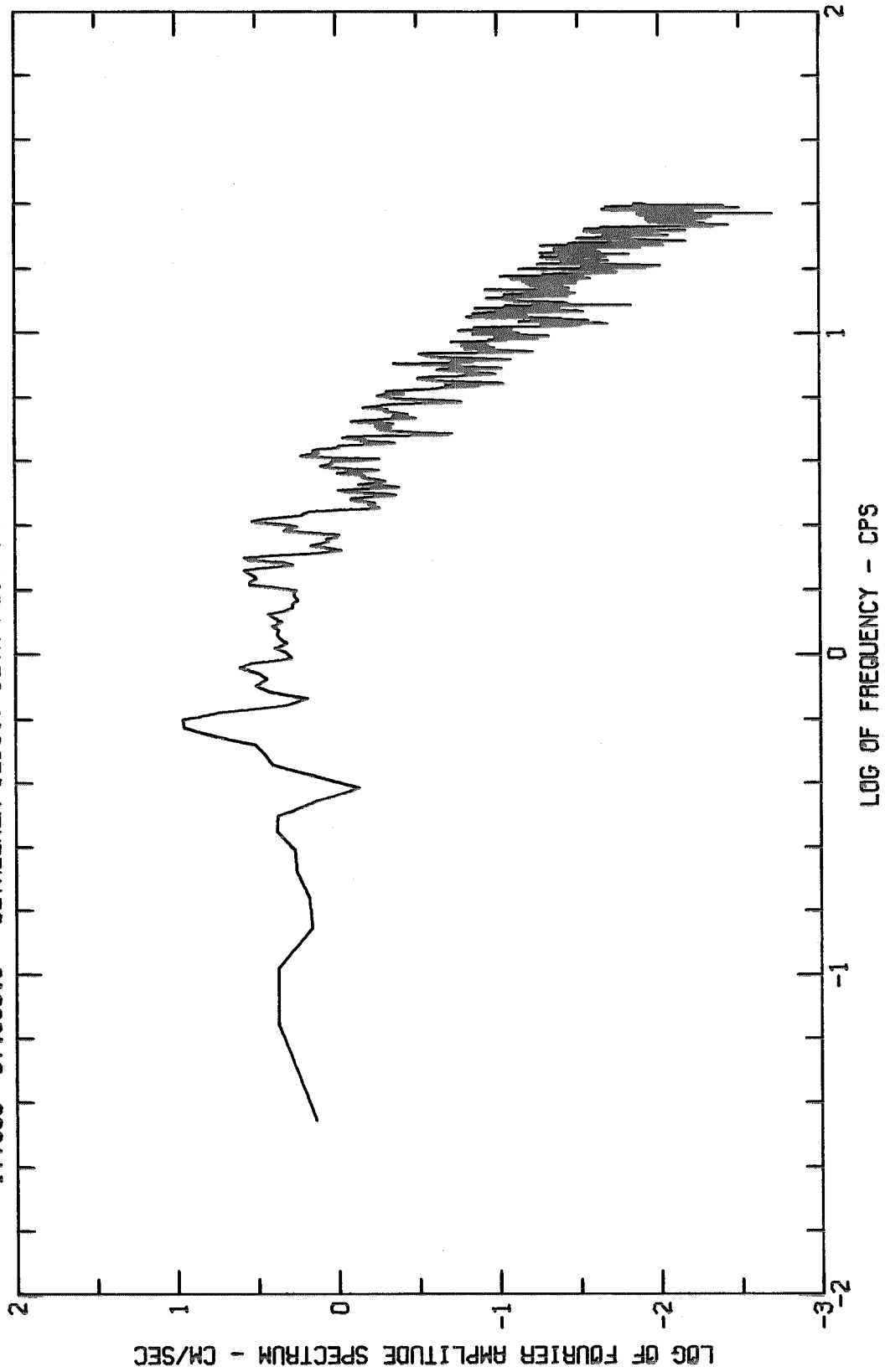


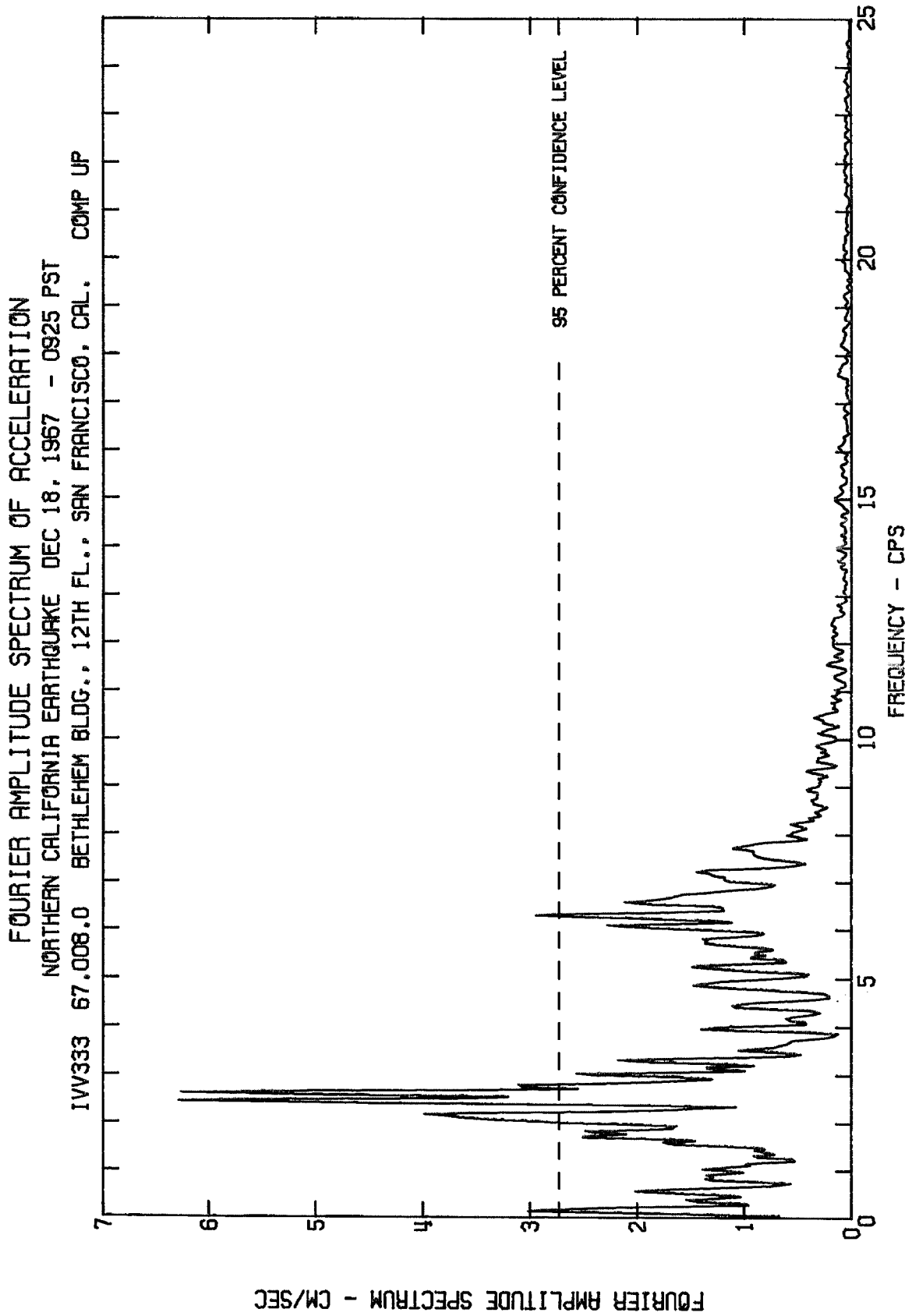


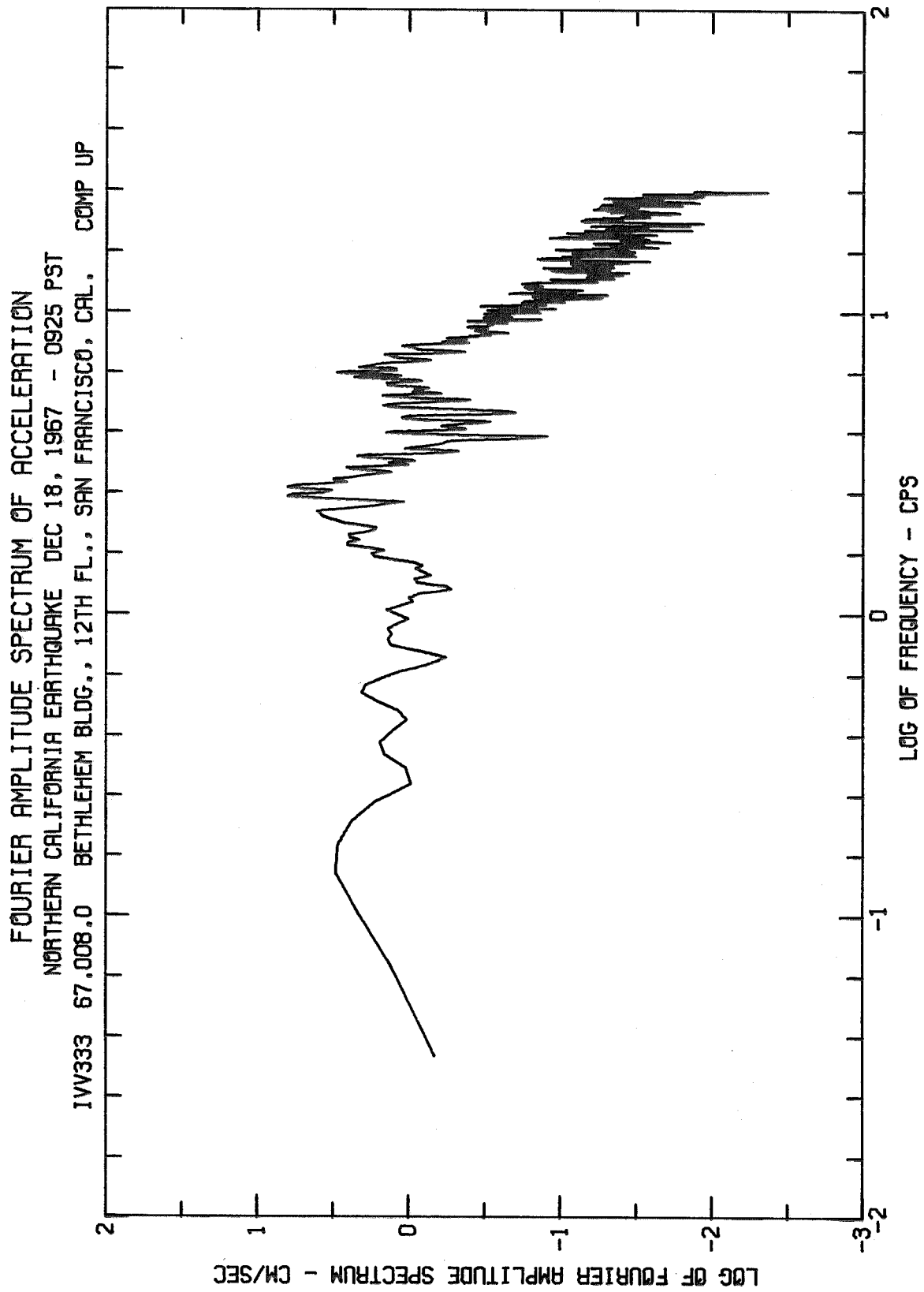




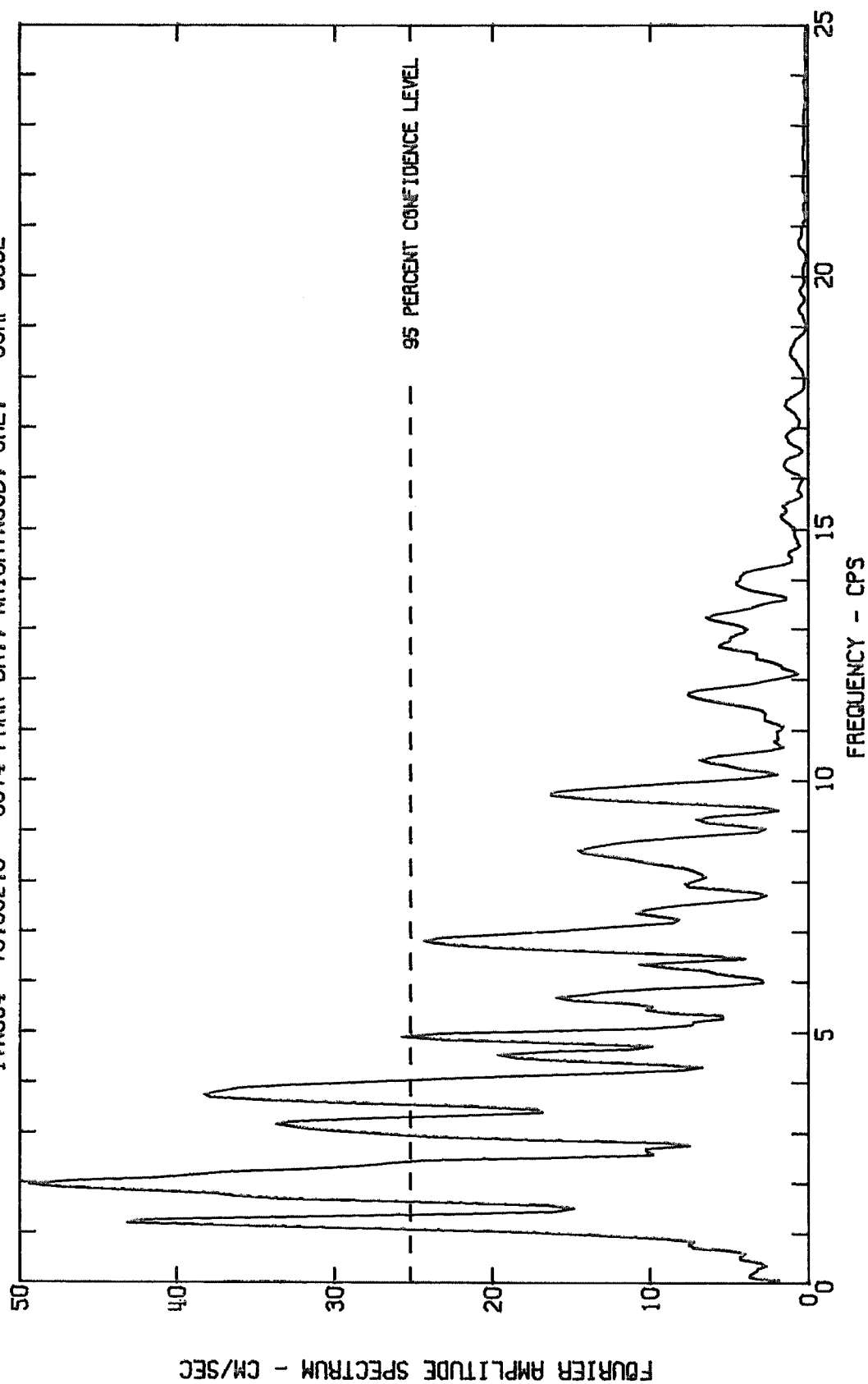
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
NORTHERN CALIFORNIA EARTHQUAKE DEC 18, 1967 - 0925 PST
1VV333 67.008.0 BETHLEHEM BLDG., 12TH FL., SAN FRANCISCO, CAL. COMP WEST



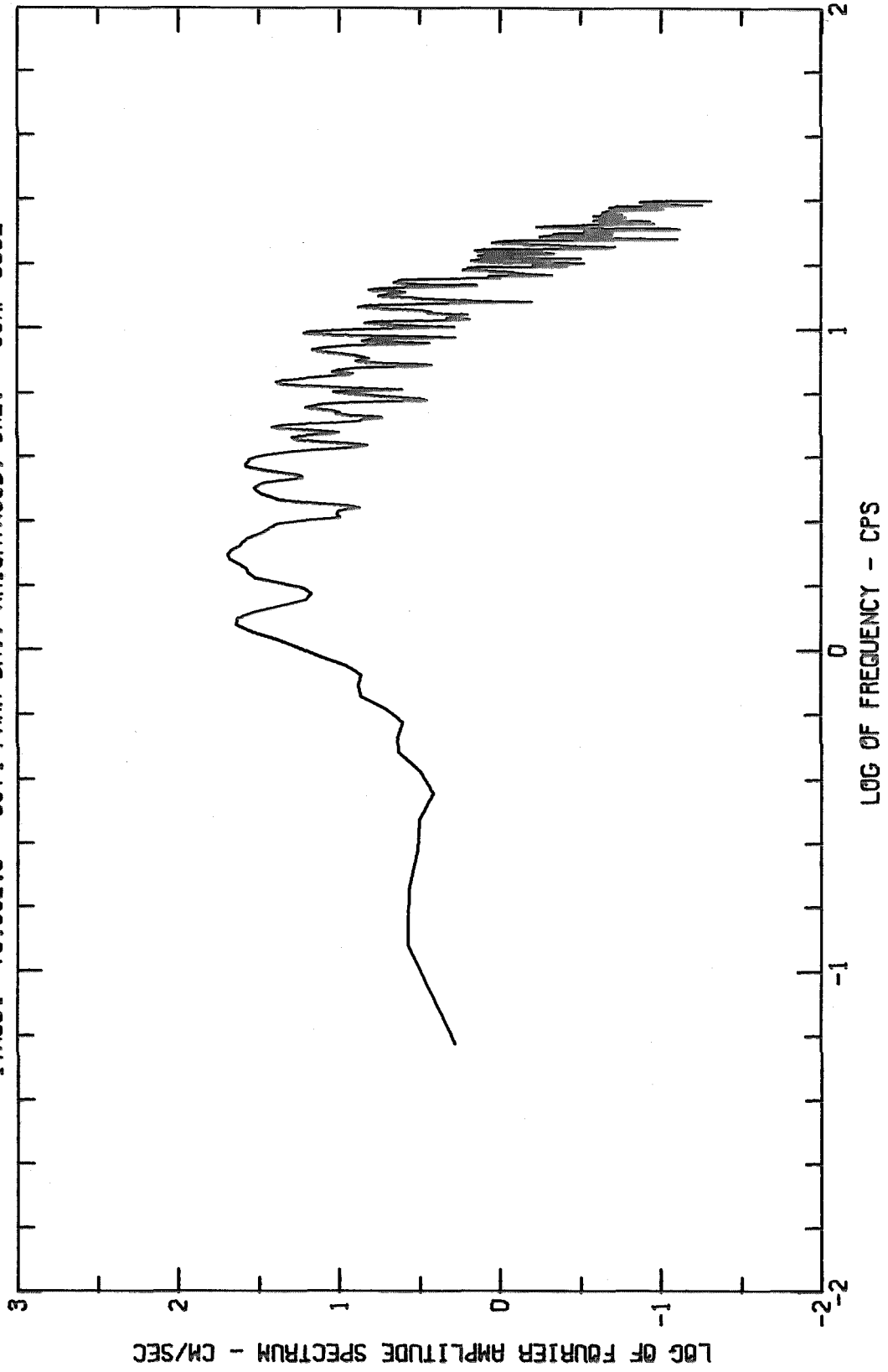




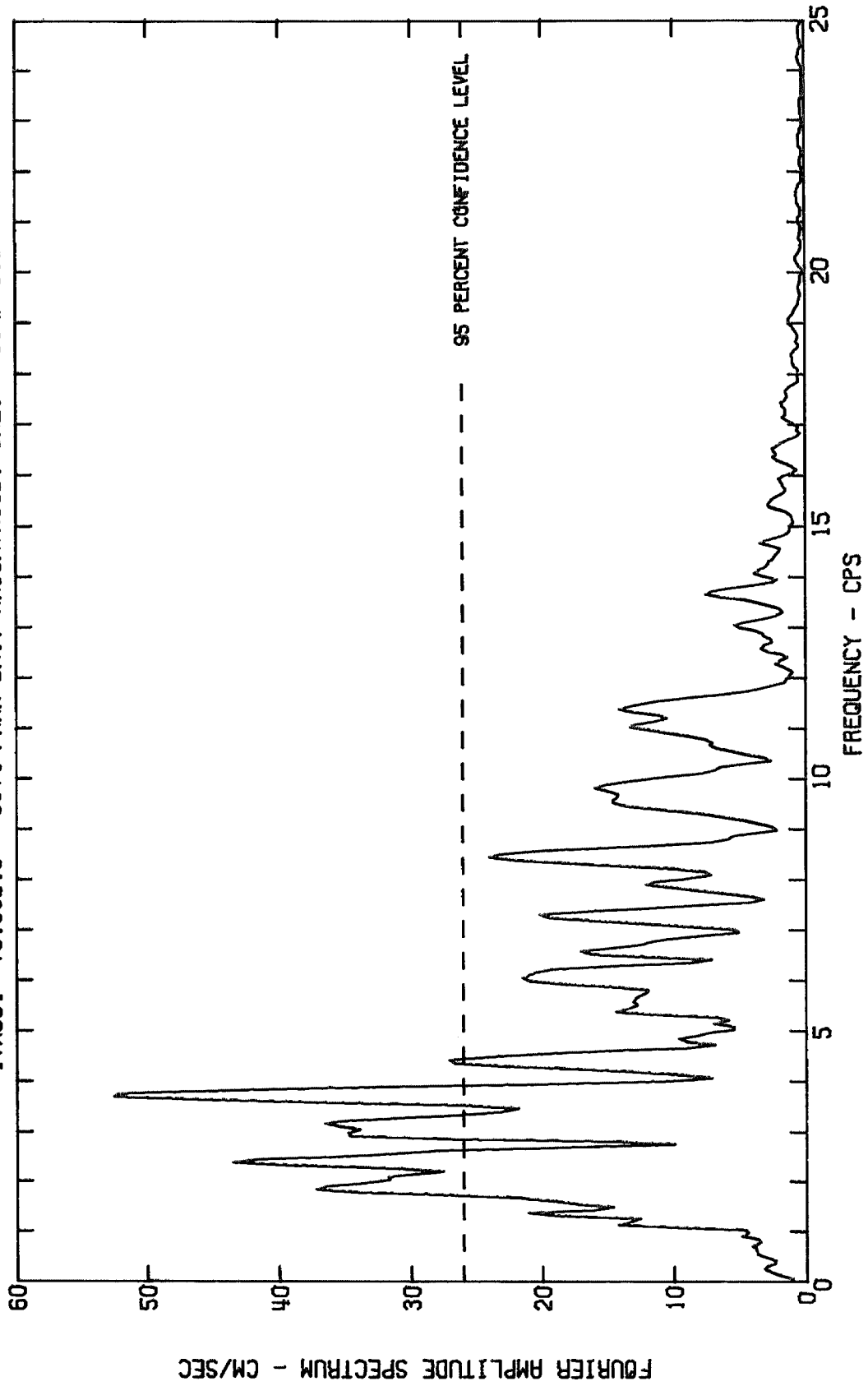
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
LYTLE CREEK EARTHQUAKE SEP 12, 1970 - 0630 PST
IVW334 70.002.0 6074 PARK DR., WRIGHTWOOD, CAL. COMP S65E



FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
LYTLE CREEK EARTHQUAKE SEP 12, 1970 - 0630 PST
IVN334 70.002.0 6074 PARK DR., WRIGHTWOOD, CAL. COMP S65E



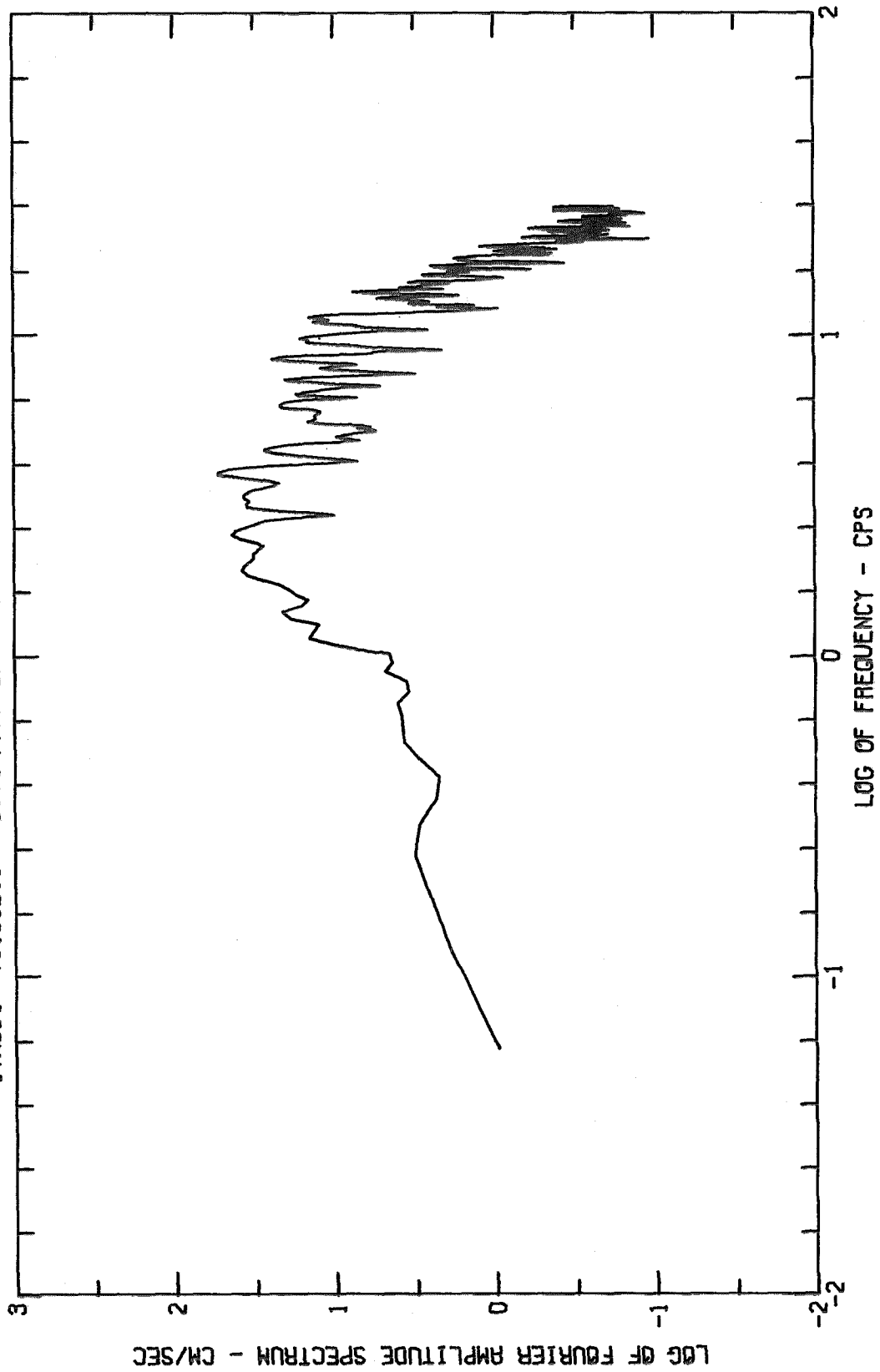
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
LYTLE CREEK EARTHQUAKE SEP 12, 1970 - 0630 PST
1VW334 70.002.0 6074 PARK DR., WRIGHTWOOD, CAL. COMP S25W



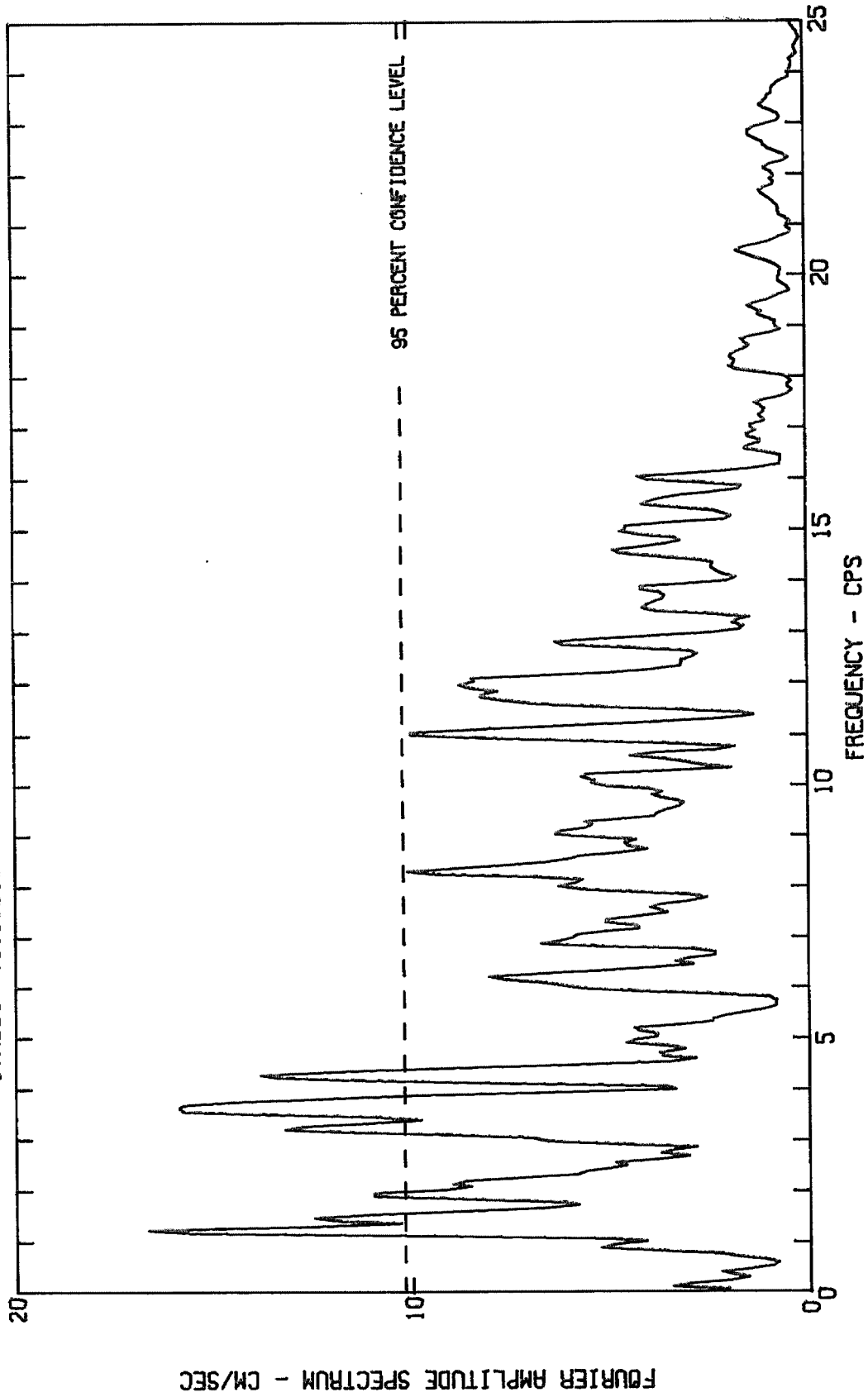
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LYTLE CREEK EARTHQUAKE SEP 12, 1970 - 0630 PST

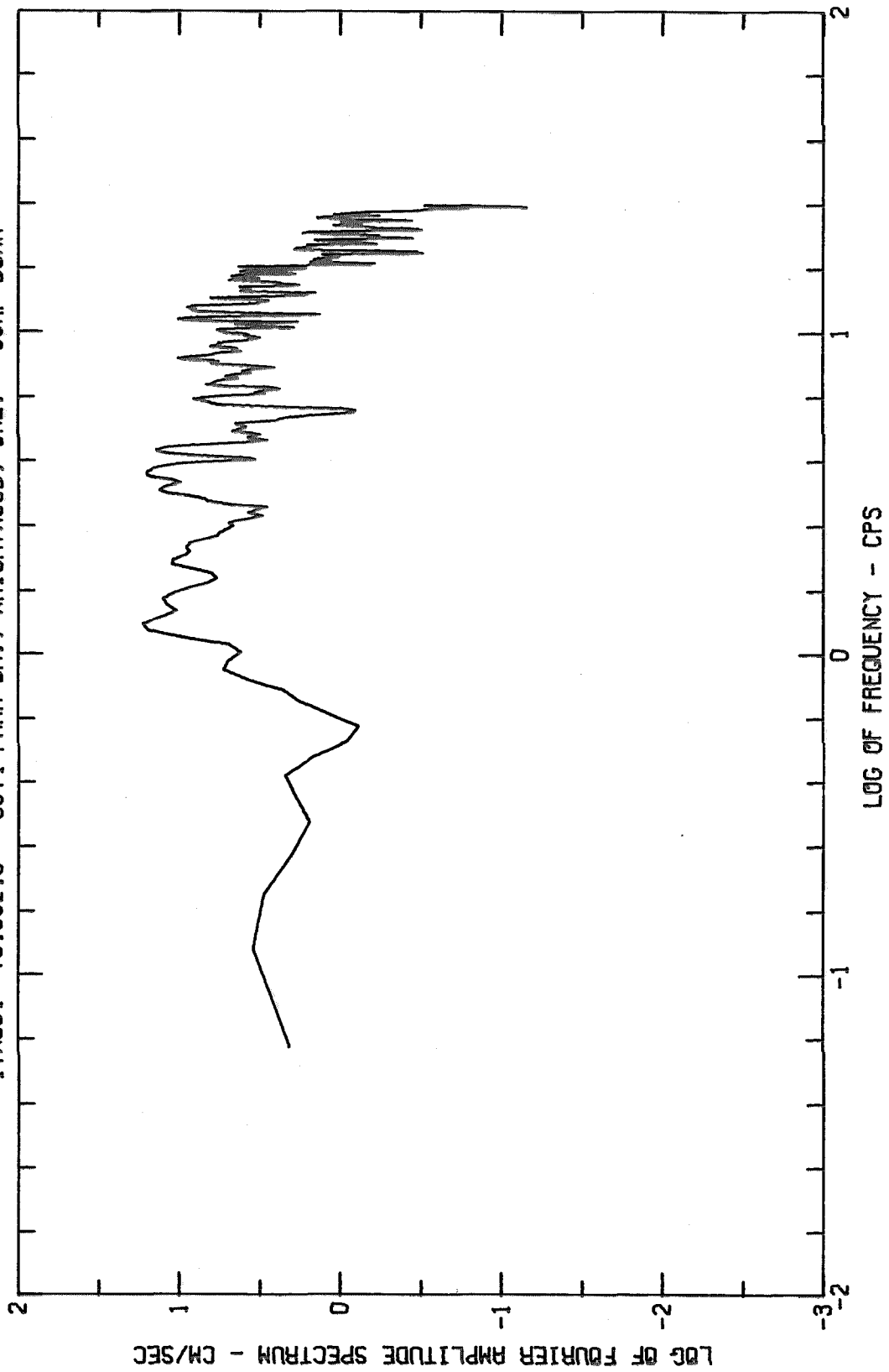
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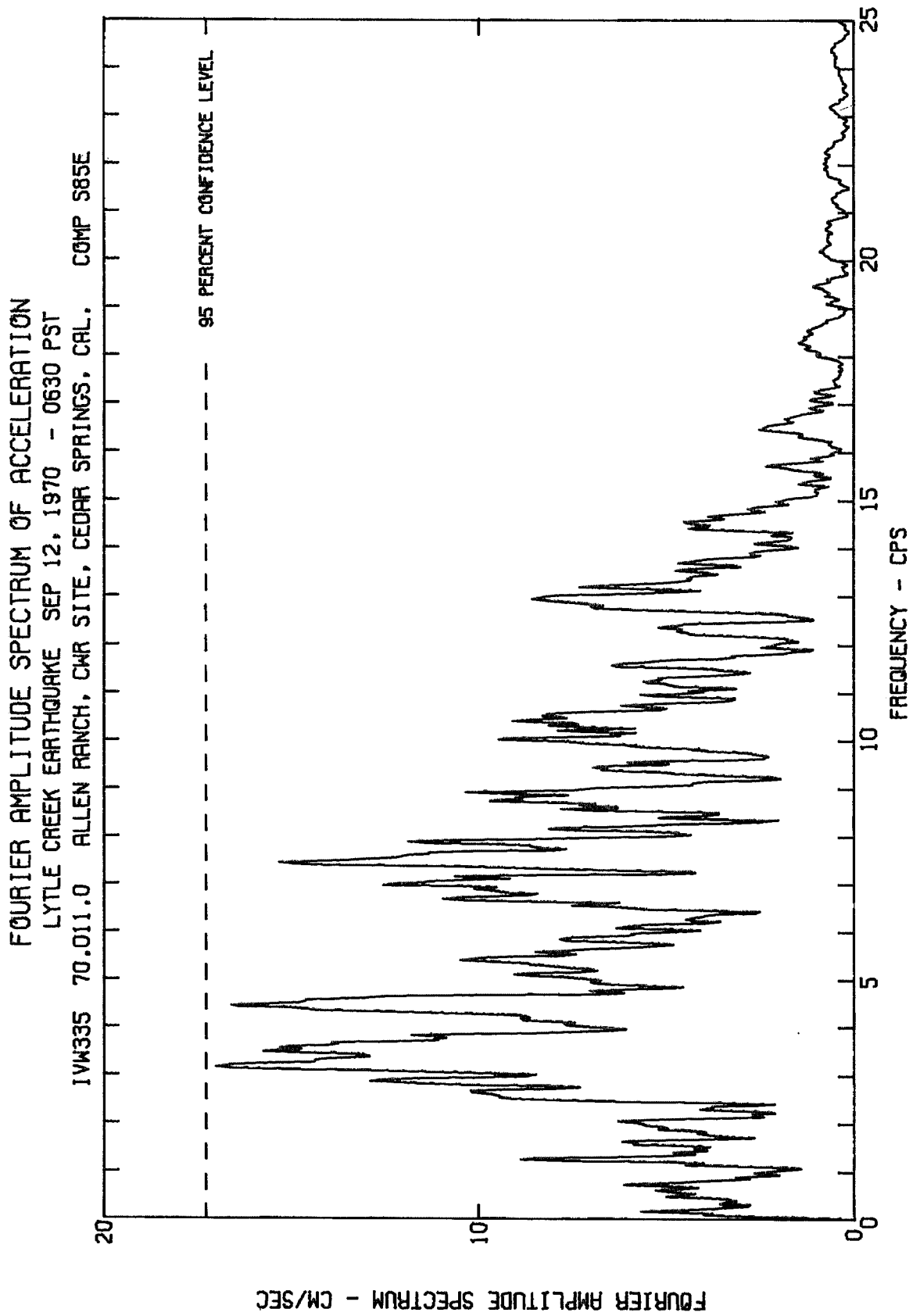


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
LYTLE CREEK EARTHQUAKE SEP 12, 1970 - 0630 PST
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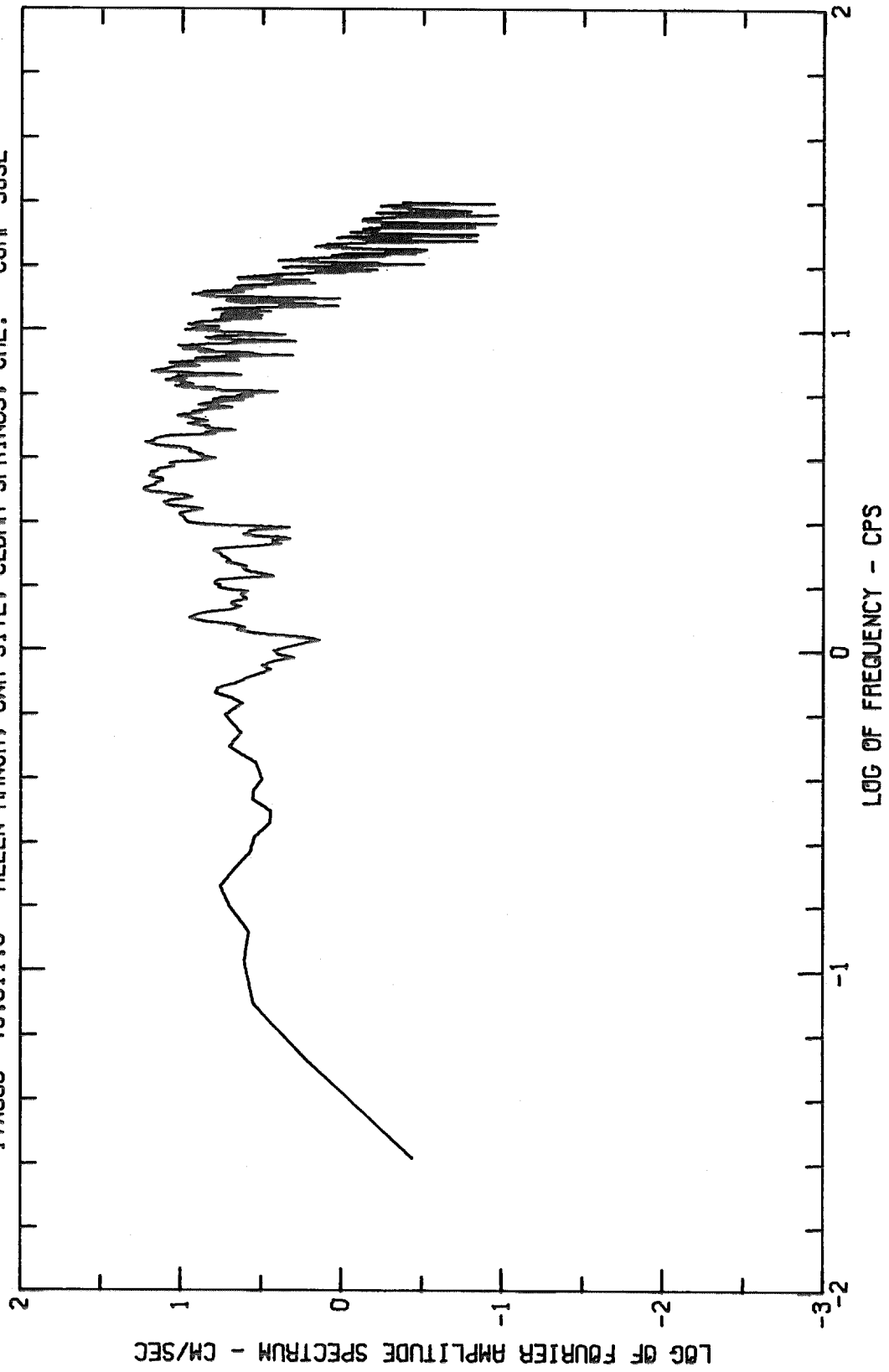


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LYTLE CREEK EARTHQUAKE SEP 12, 1970 - 0630 PST
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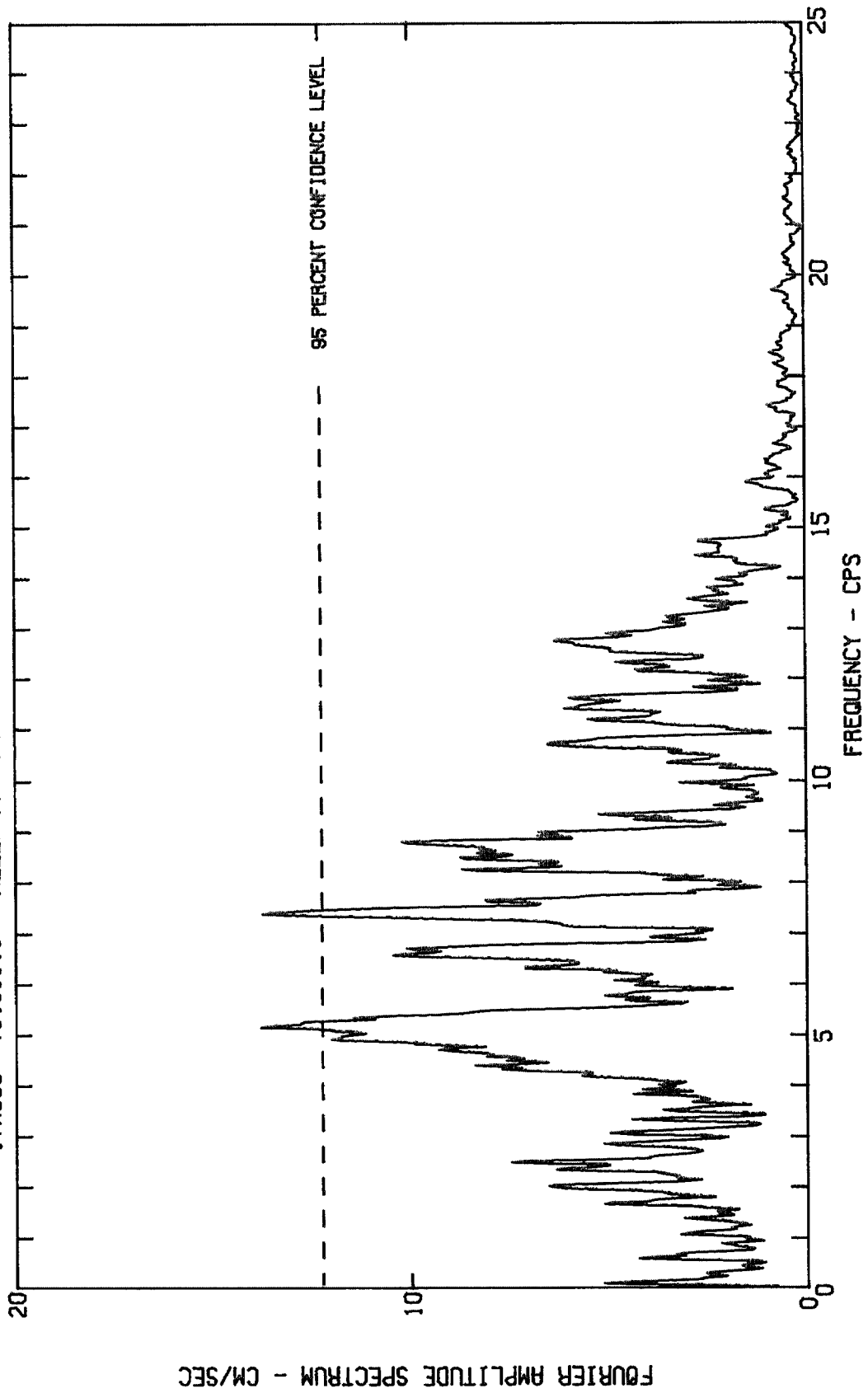
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LYTLE CREEK EARTHQUAKE SEP 12, 1970 - 0630 PST
1VW335 70.011.0 ALLEN RANCH, CWR SITE, CEDAR SPRINGS, CAL. COMP S85E

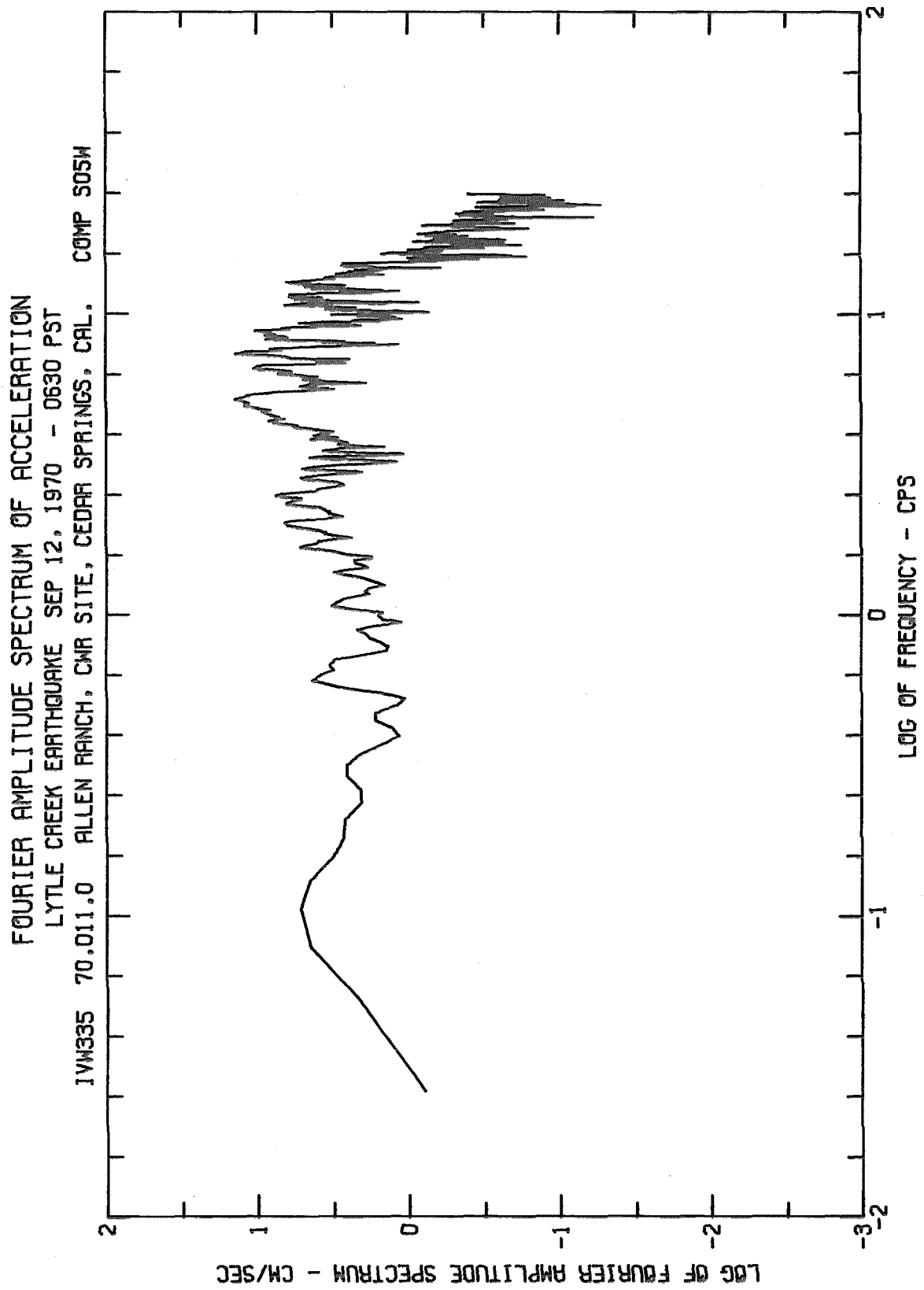


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION

LYTLE CREEK EARTHQUAKE SEP 12, 1970 - 0630 PST

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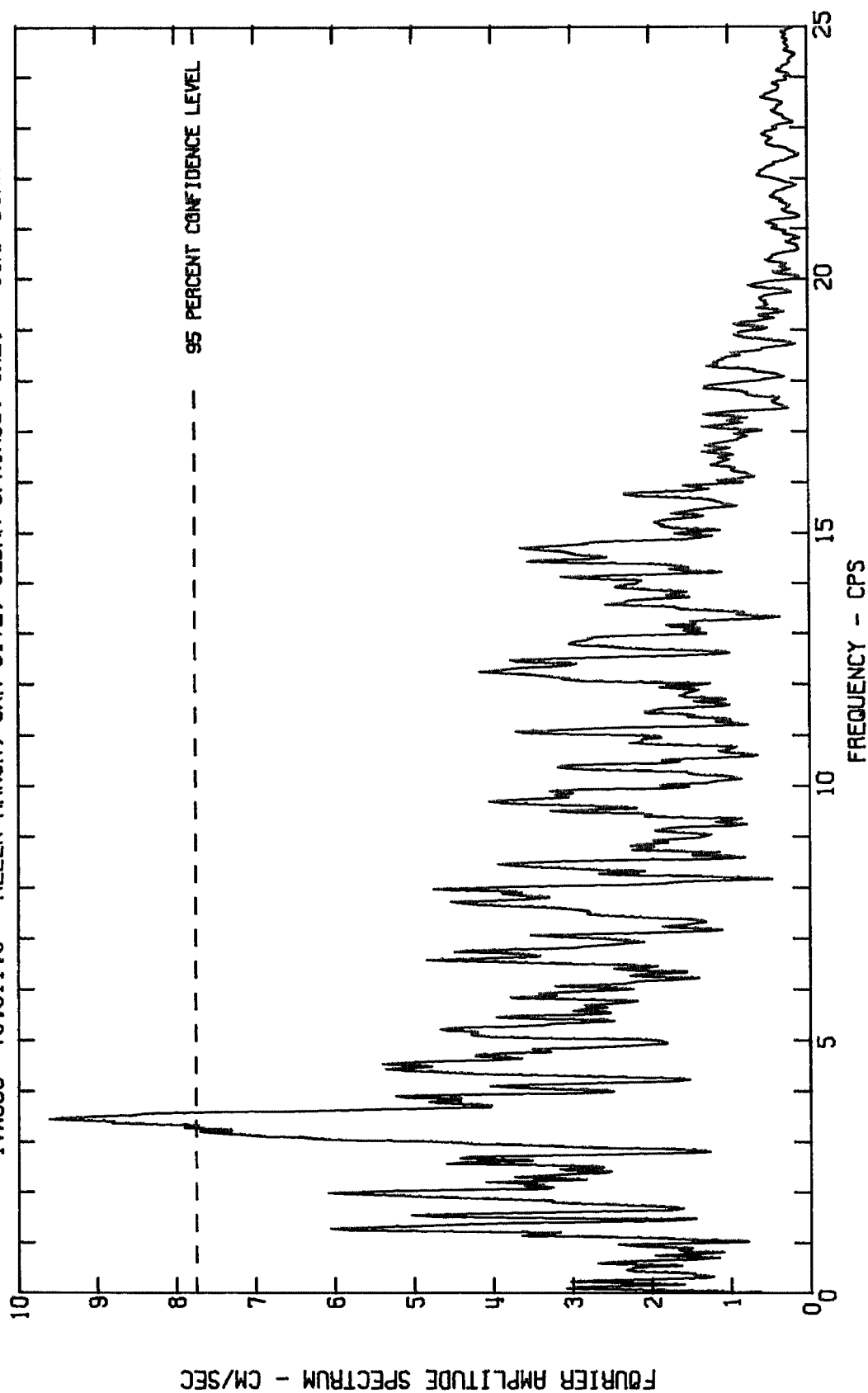


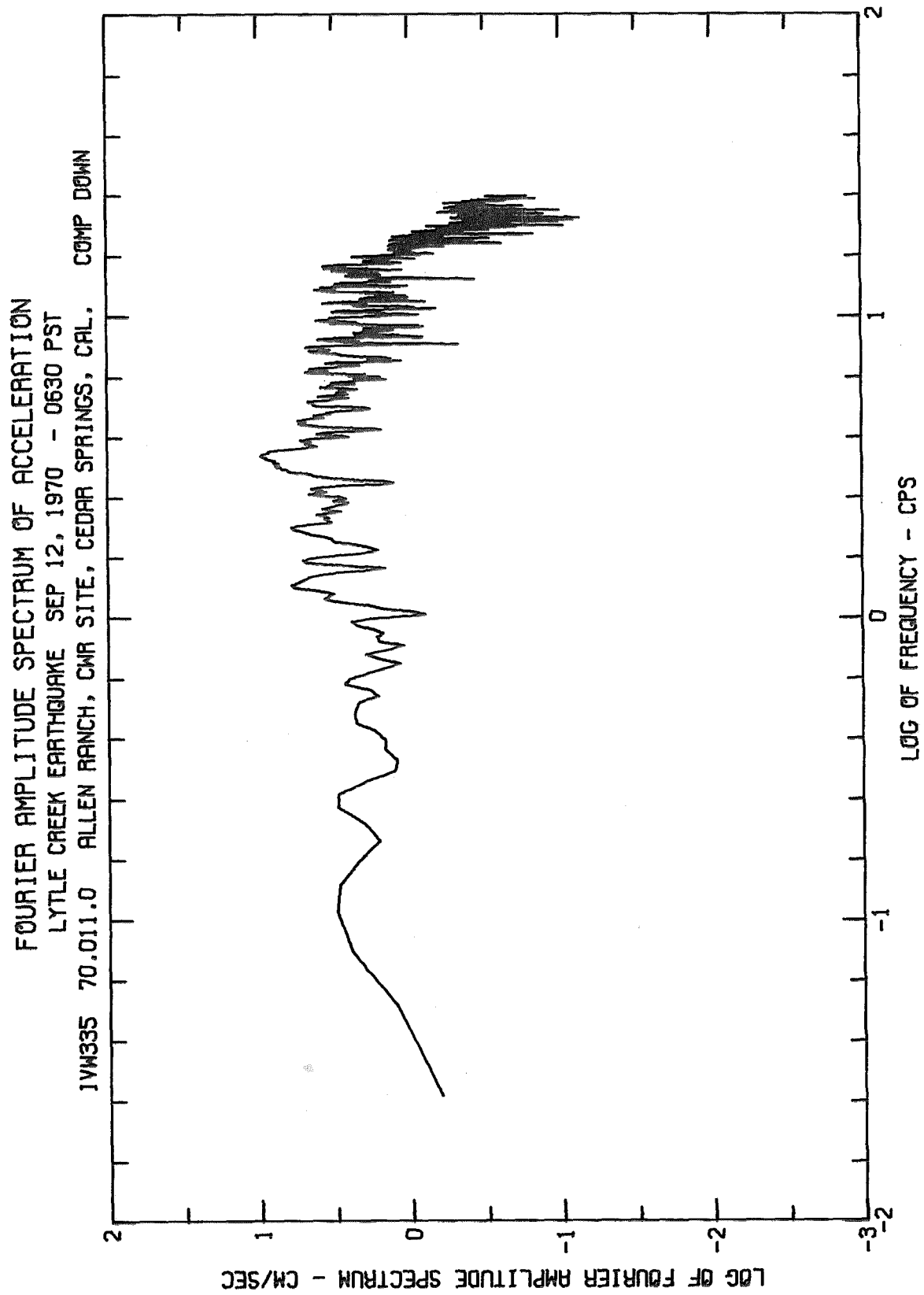


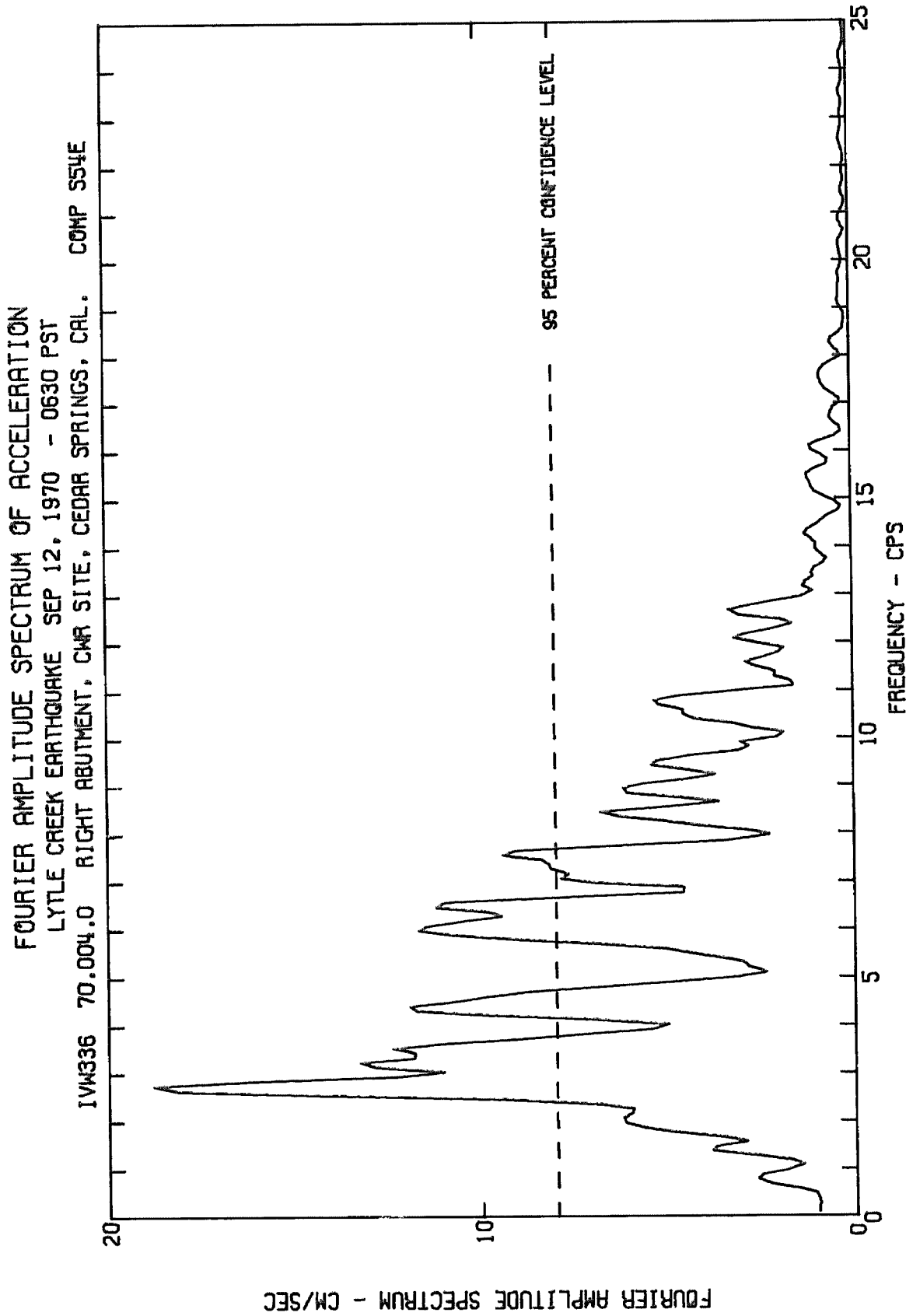
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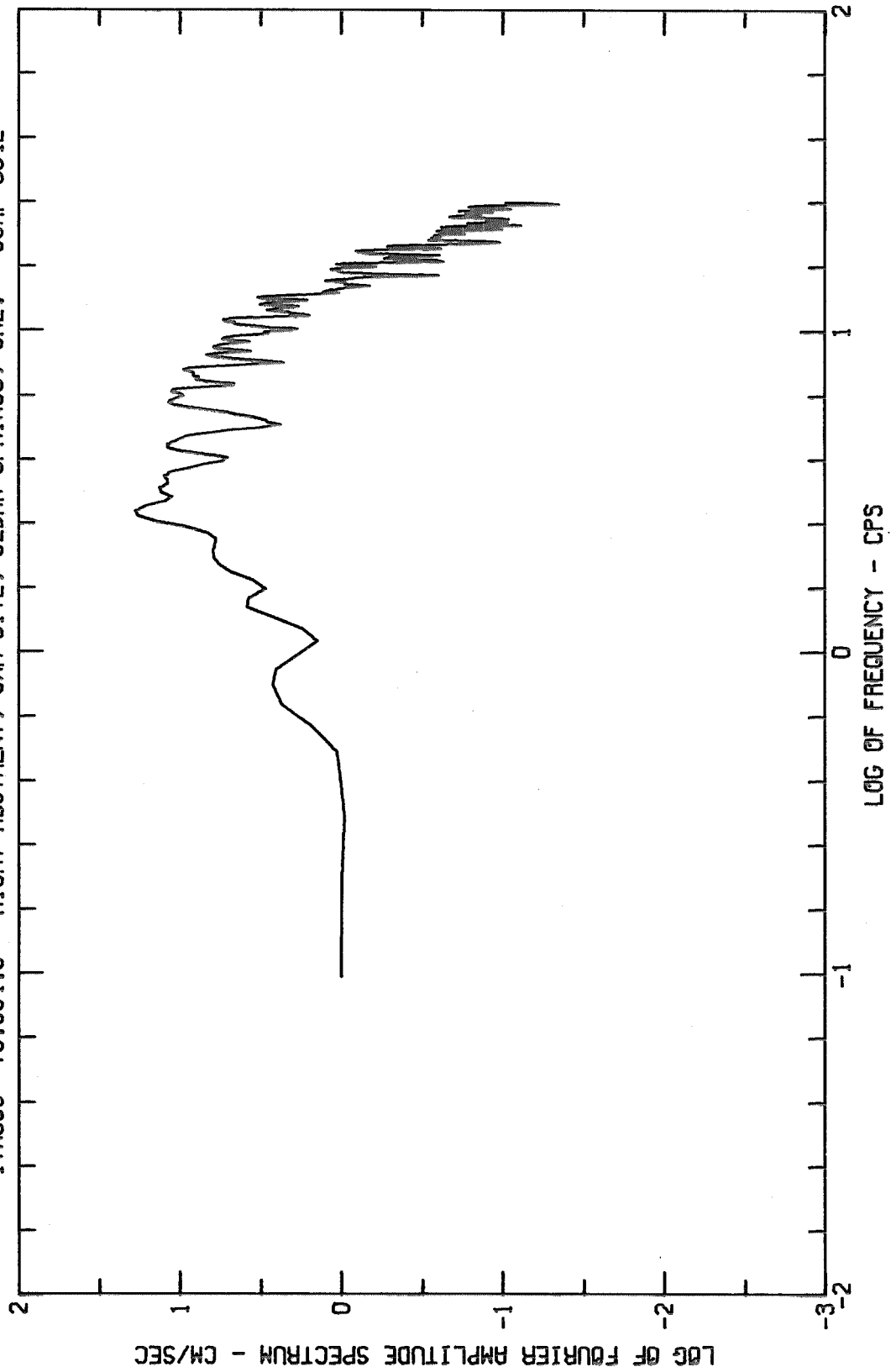
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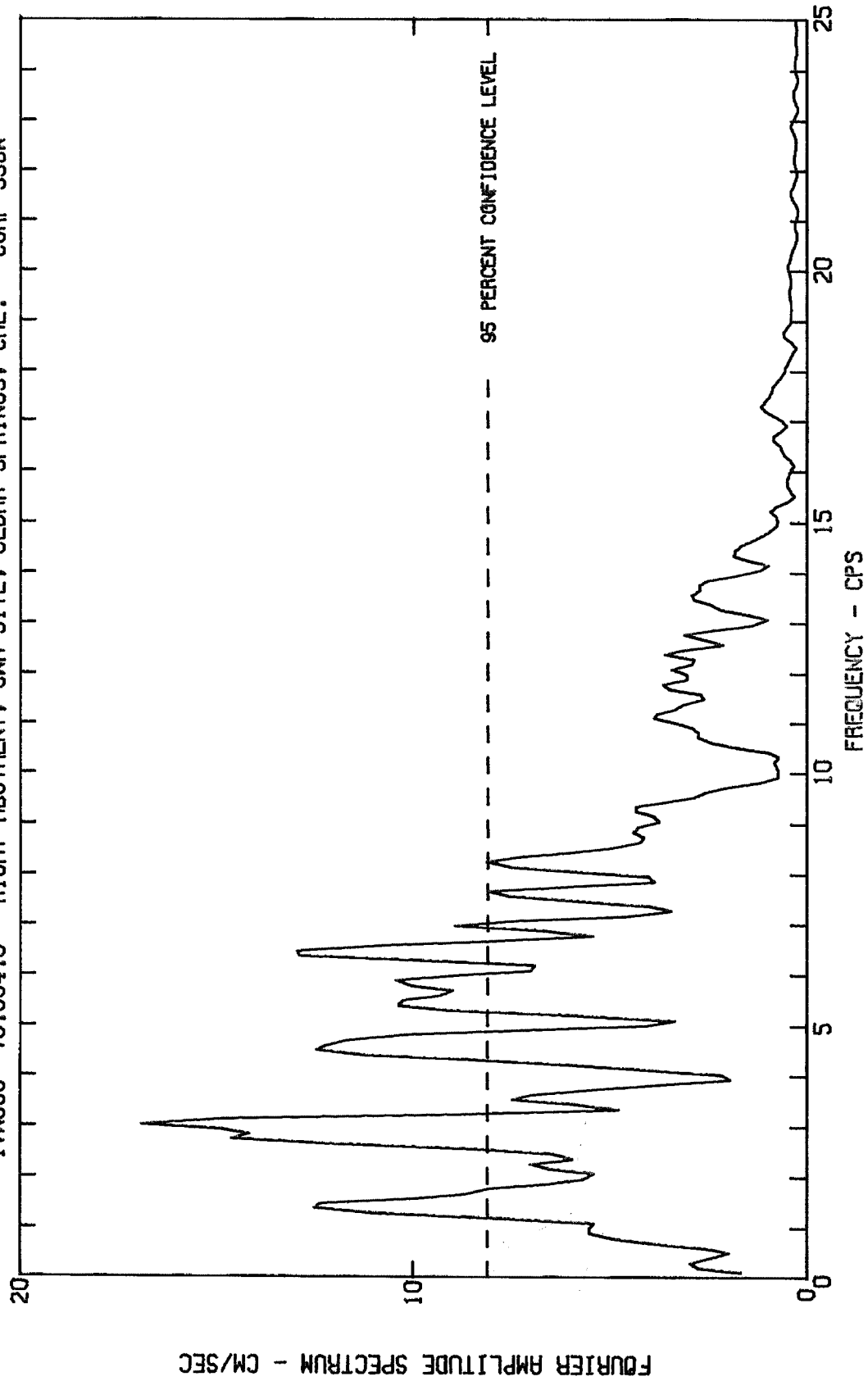
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LYTLE CREEK EARTHQUAKE SEP 12, 1970 - 0630 PST
IWN336 70.004.0 RIGHT ABUTMENT, CWA SITE, CEDAR SPRINGS, CAL. COMP S54E



FOURIER AMPLITUDE SPECTRUM OF ACCELERATION

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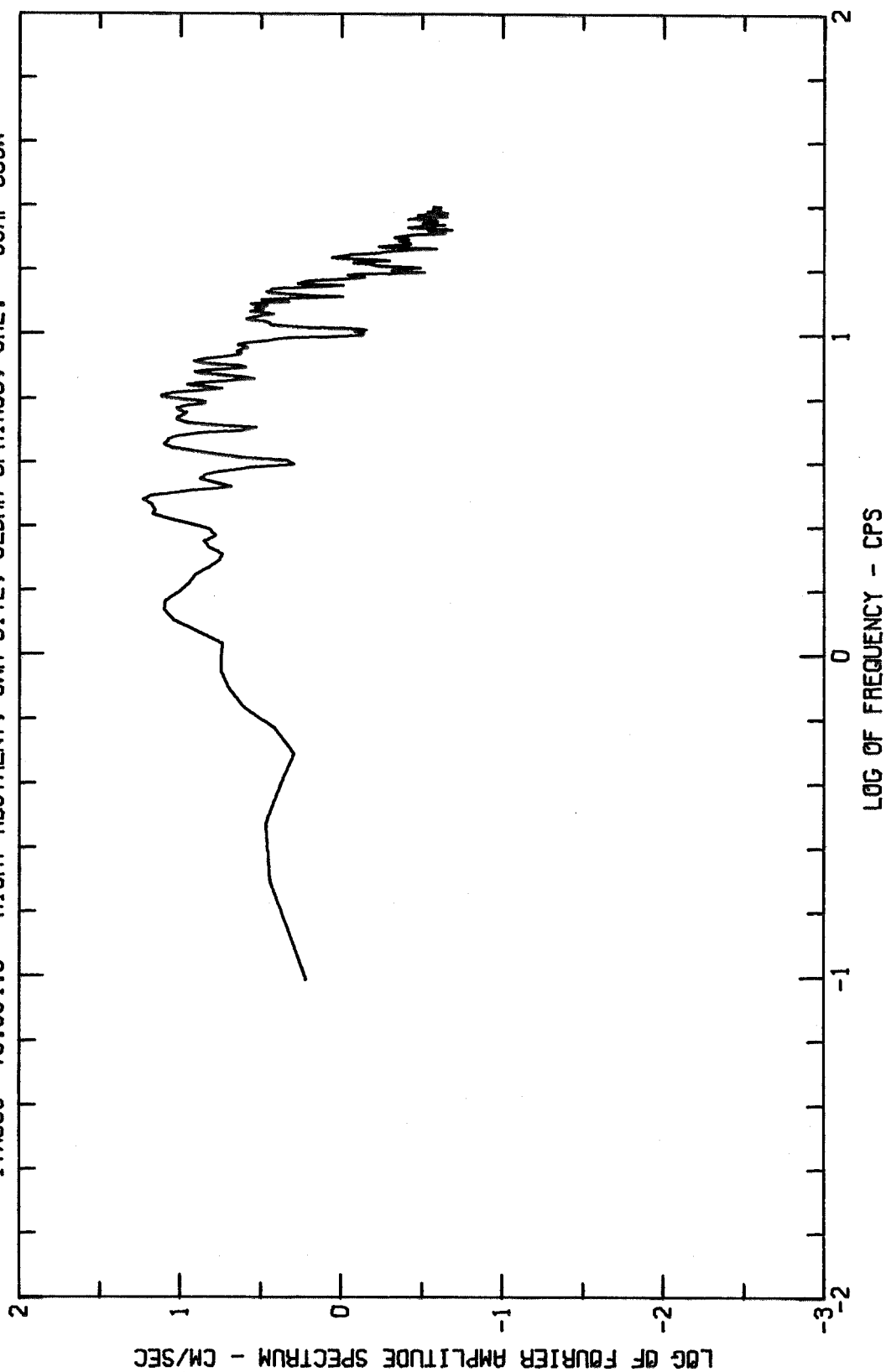
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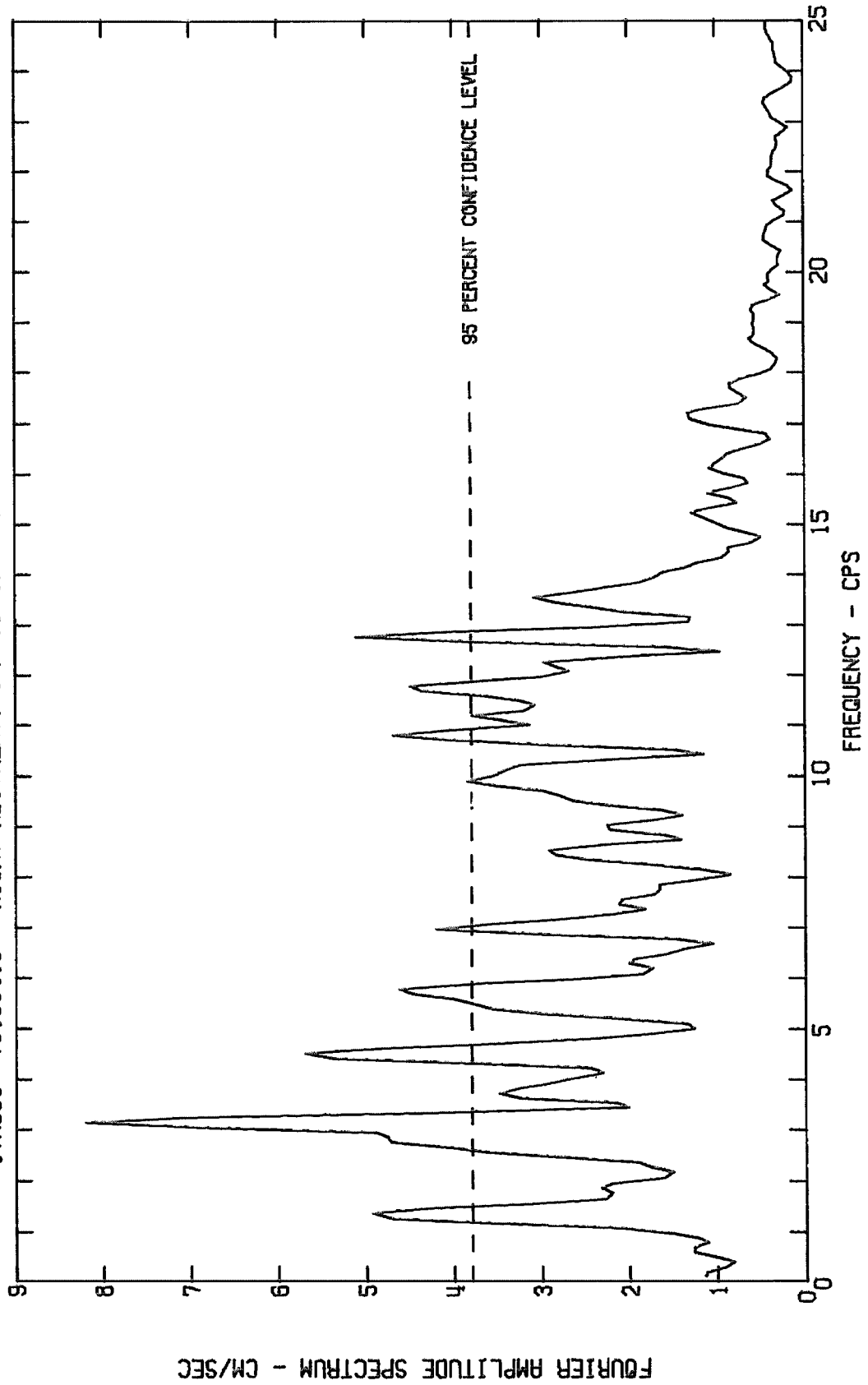
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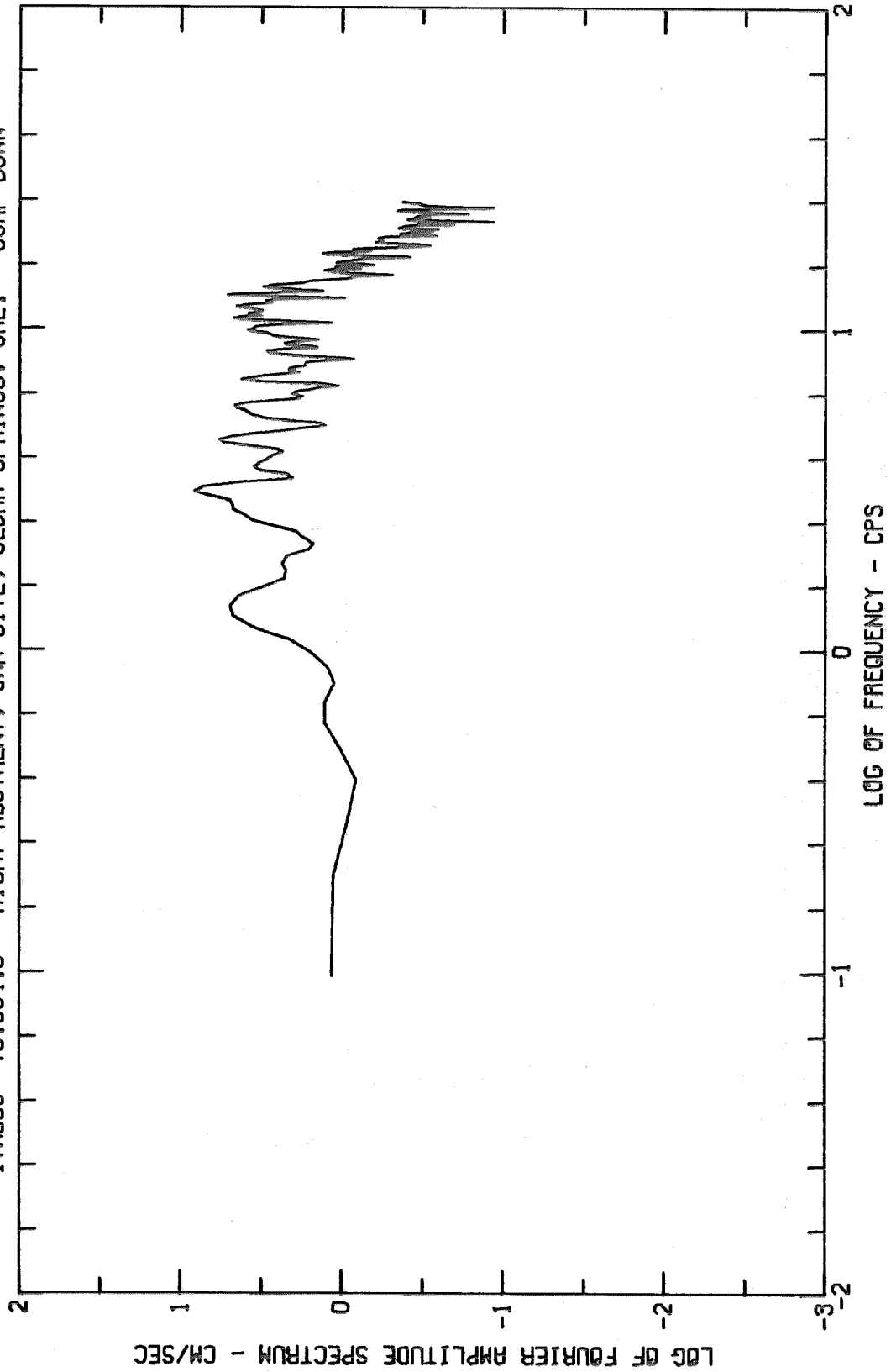
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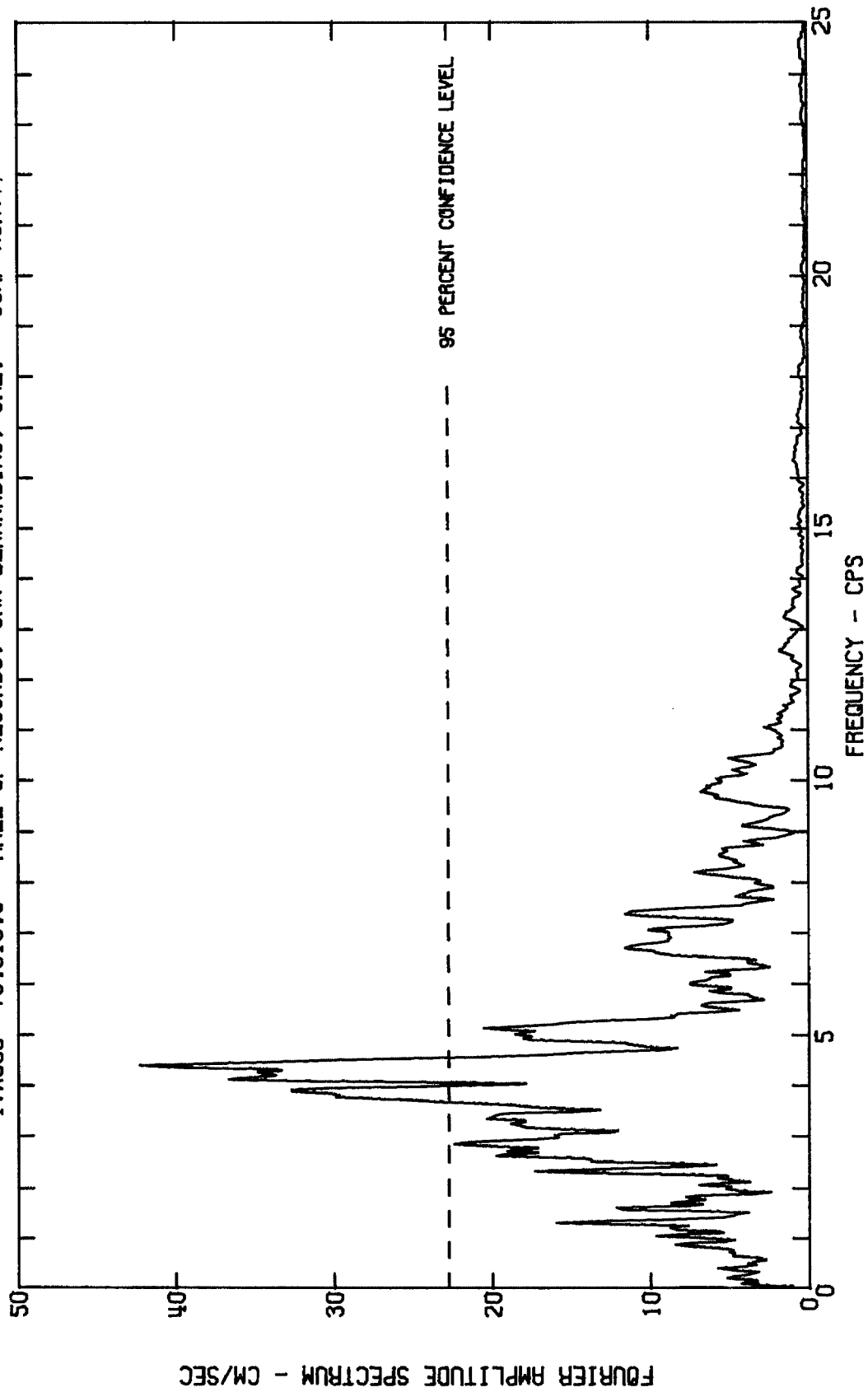
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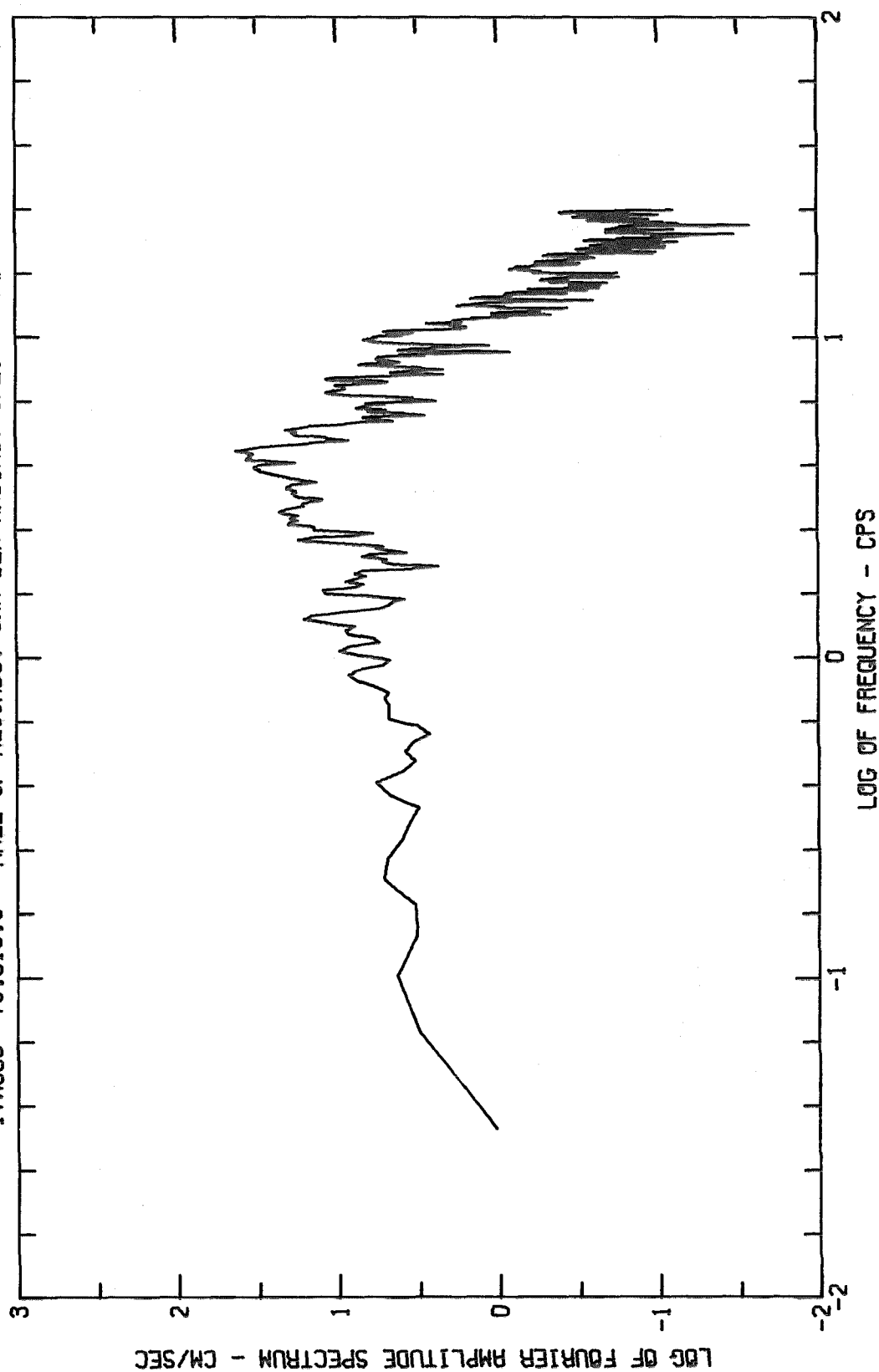
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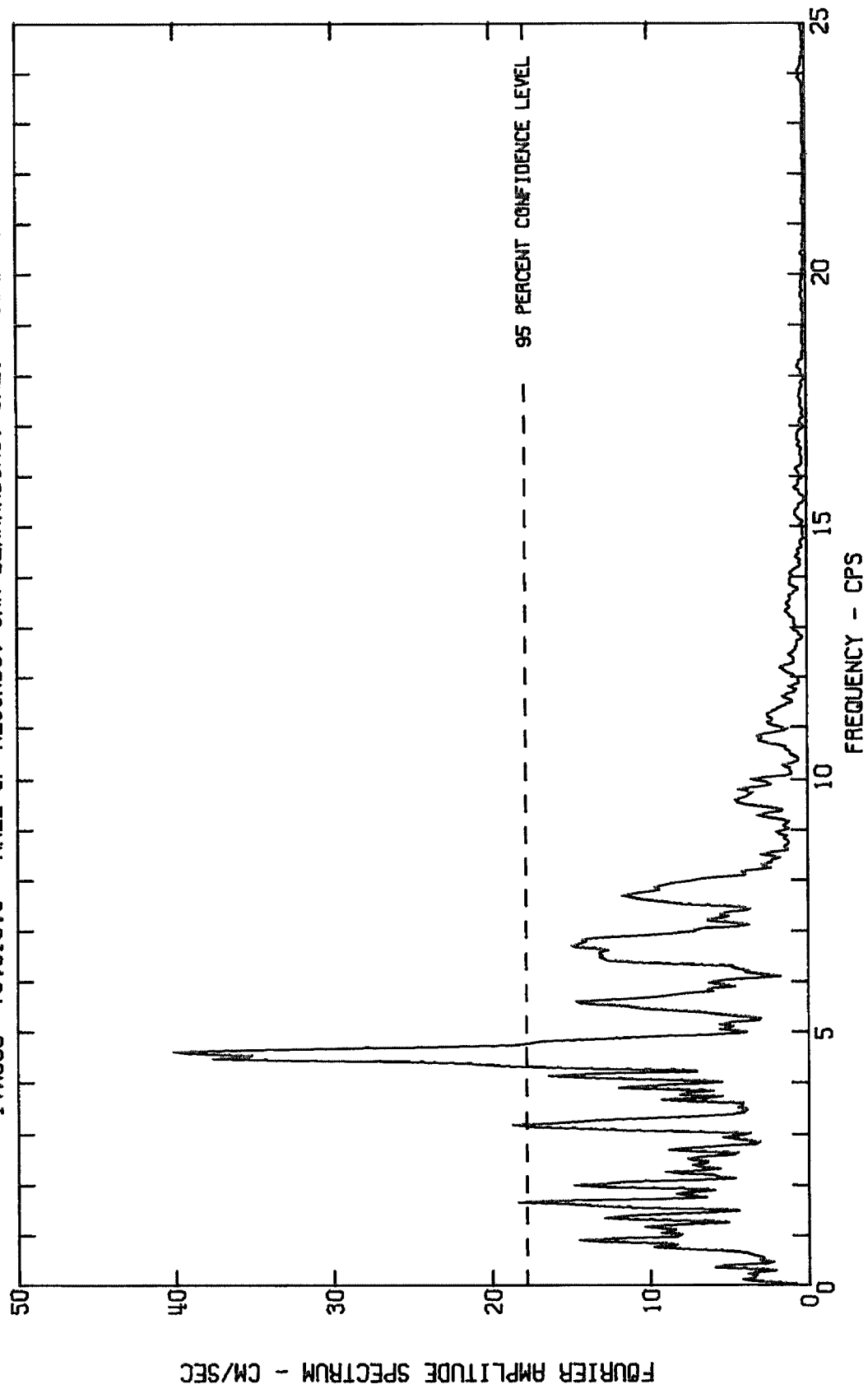
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
LYTLE CREEK EARTHQUAKE SEP 12, 1970 - 0630 PST
IVW338 70.010.0 HALL OF RECORDS, SAN BERNARDINO, CAL. COMP NORTH



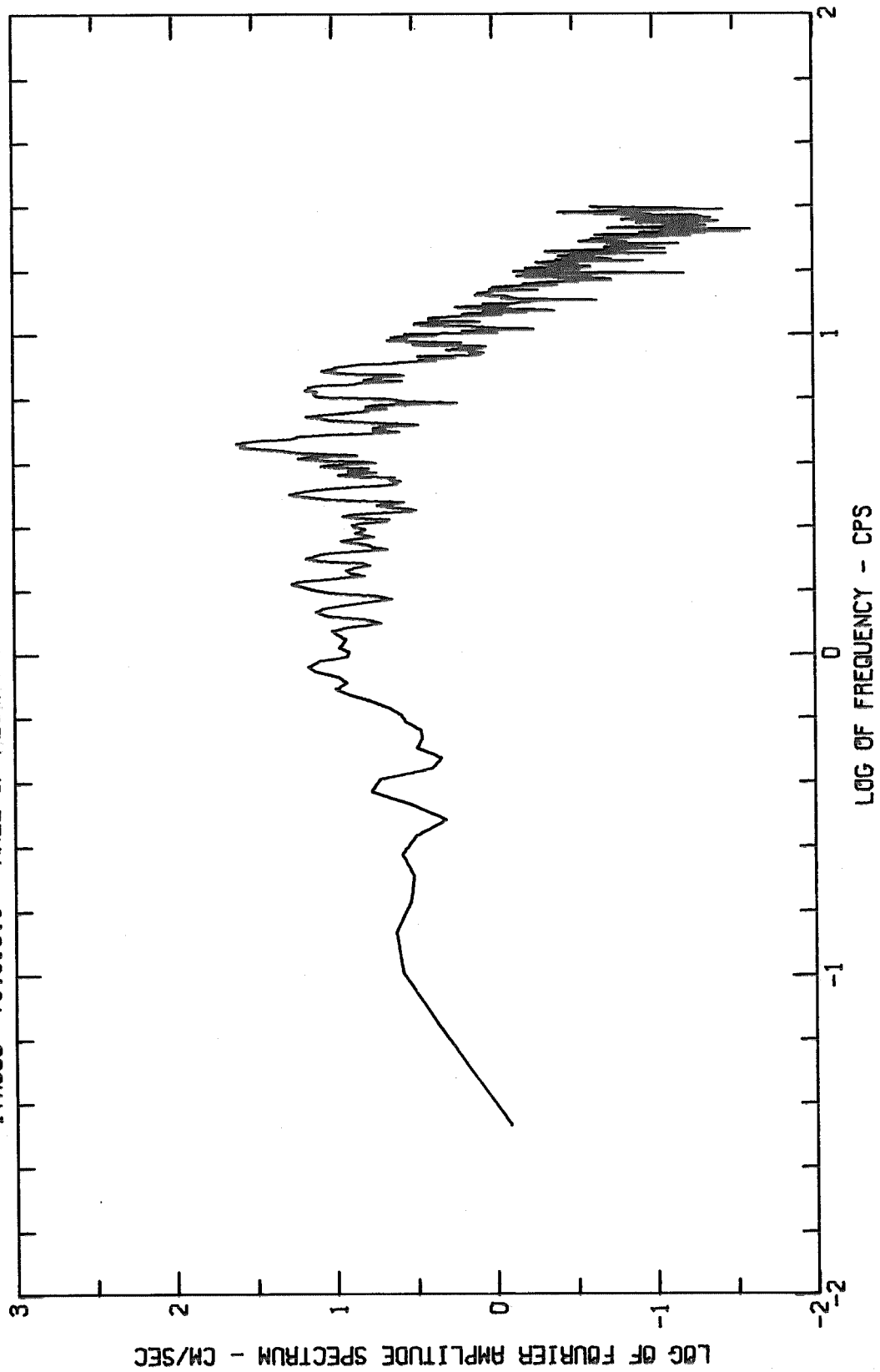
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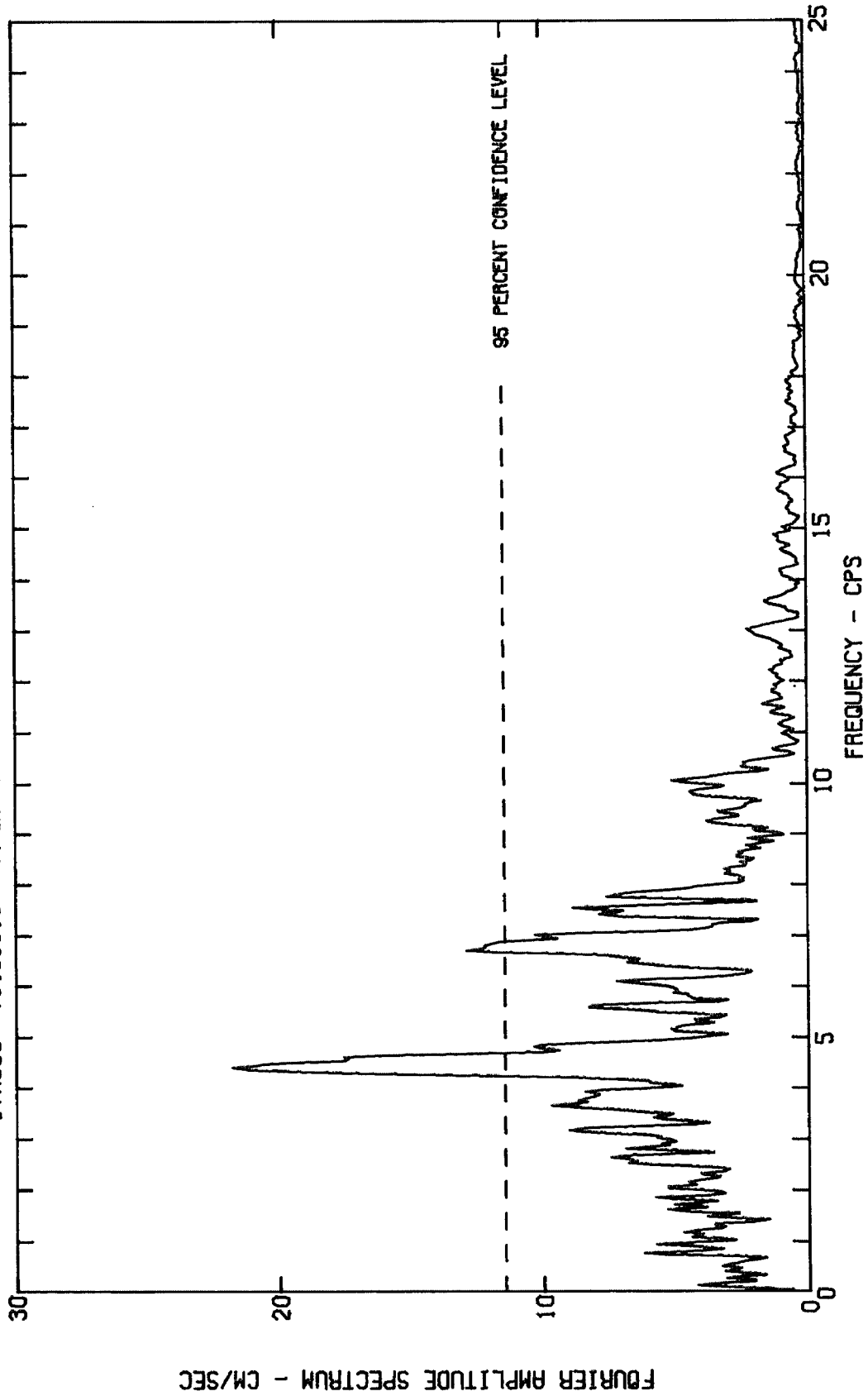
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LYTLE CREEK EARTHQUAKE SEP 12, 1970 - 0630 PST
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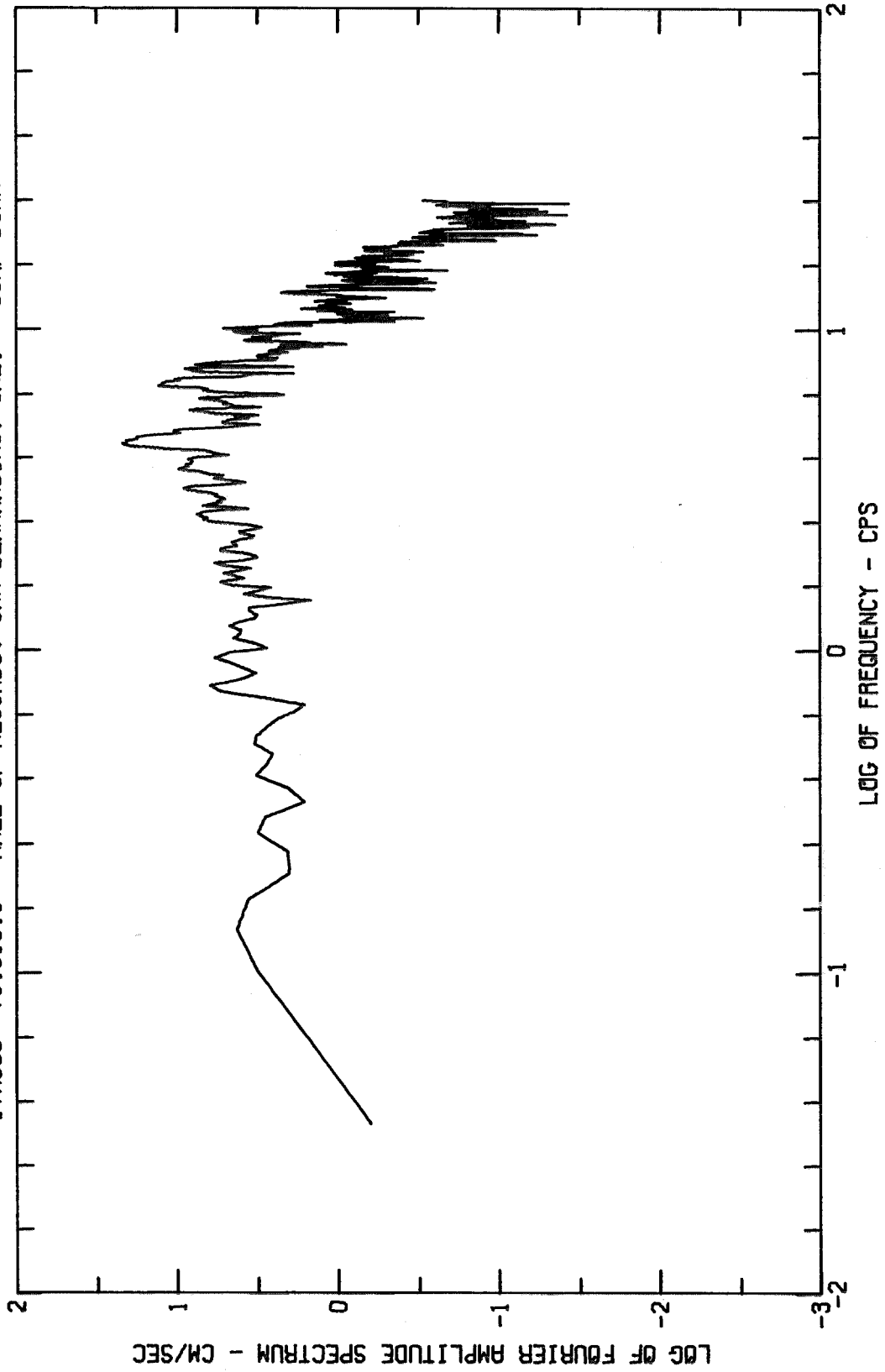
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LYTLE CREEK EARTHQUAKE SEP 12, 1970 - 0630 PST
14W338 70.010.0 HALL OF RECORDS, SAN BERNARDINO, CAL. COMP EAST



FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
LYTLE CREEK EARTHQUAKE SEP 12, 1970 - 0630 PST
IVW338 70.010.0 HALL OF RECORDS, SAN BERNARDINO, CAL. COMP DOWN



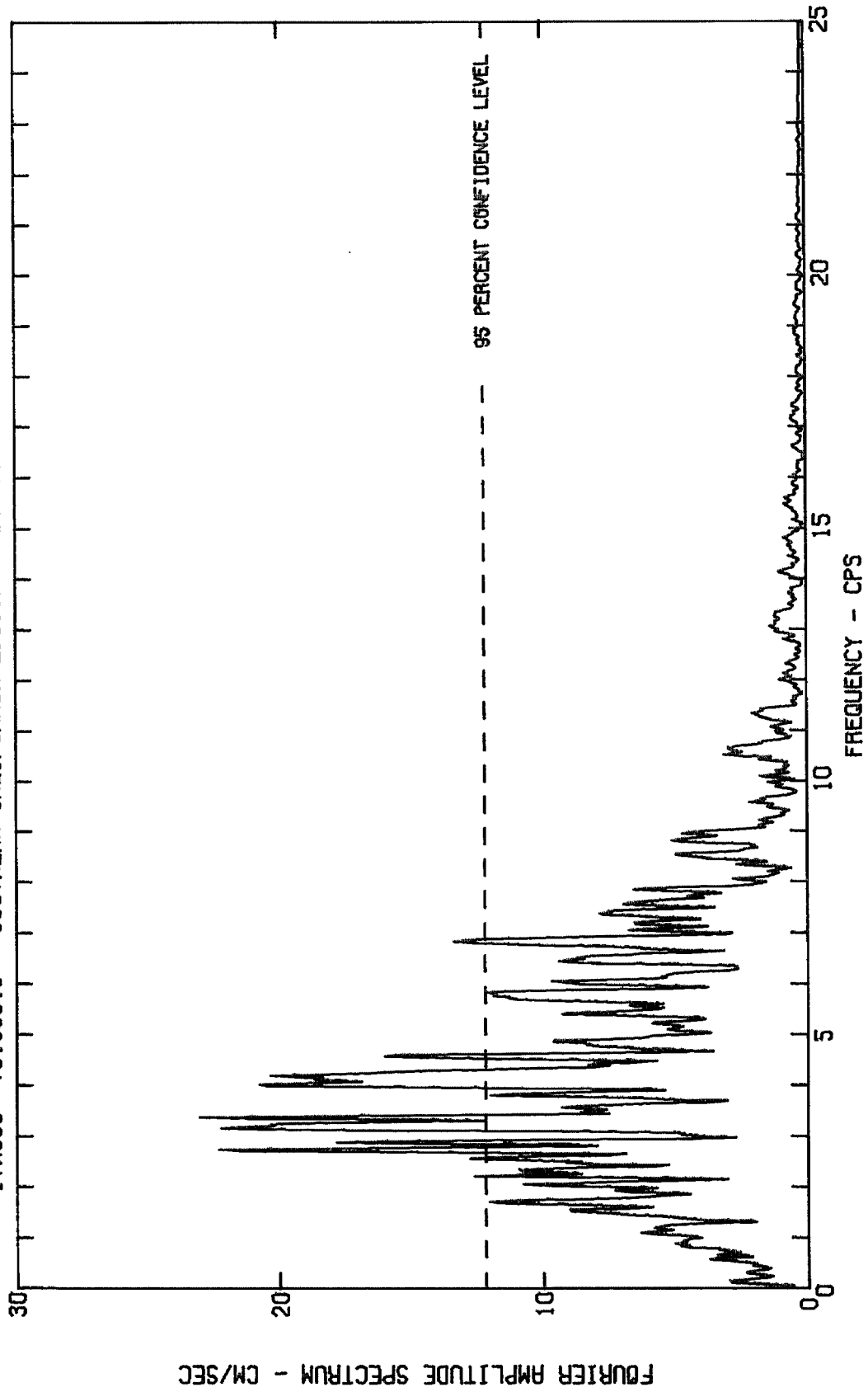
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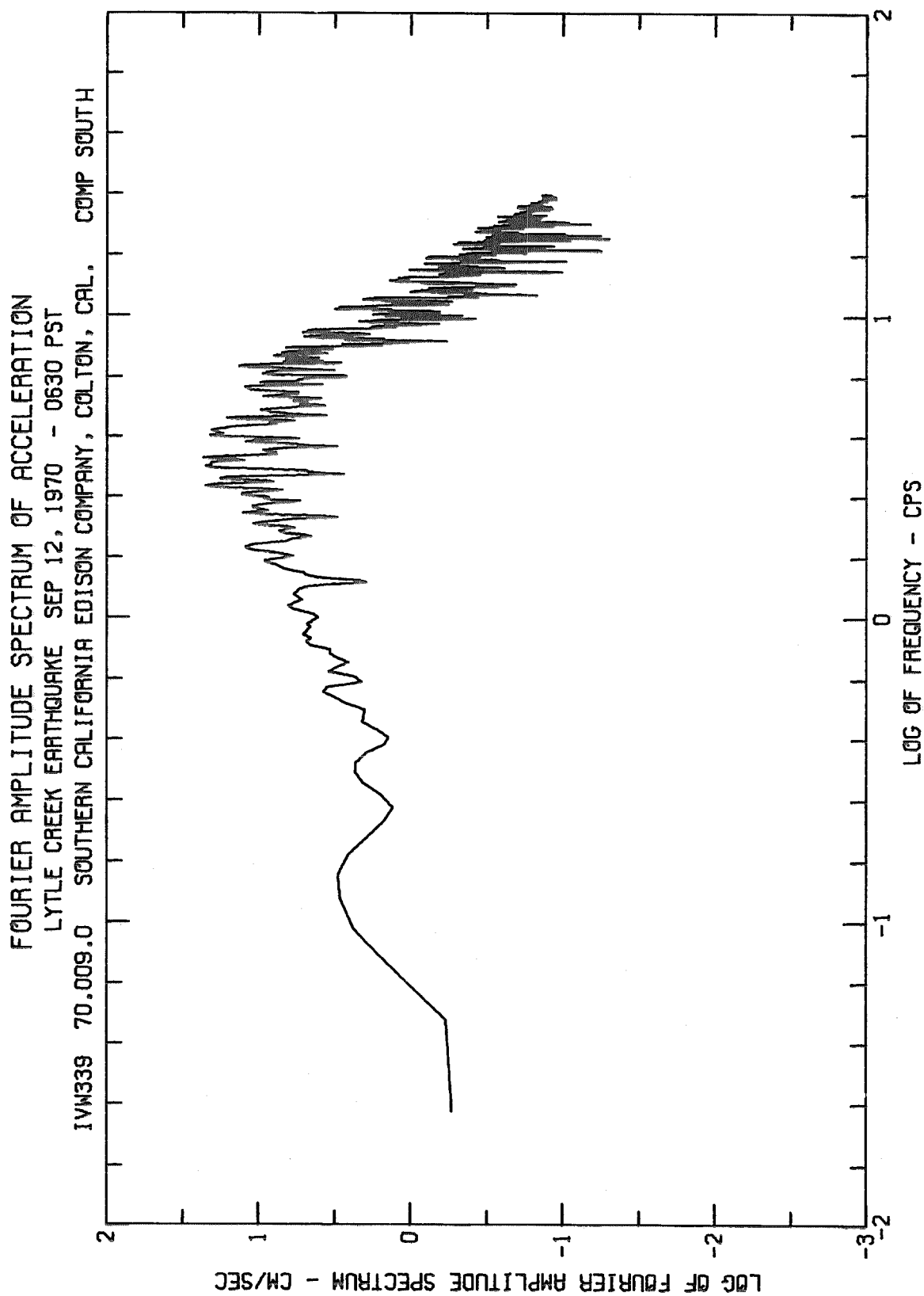


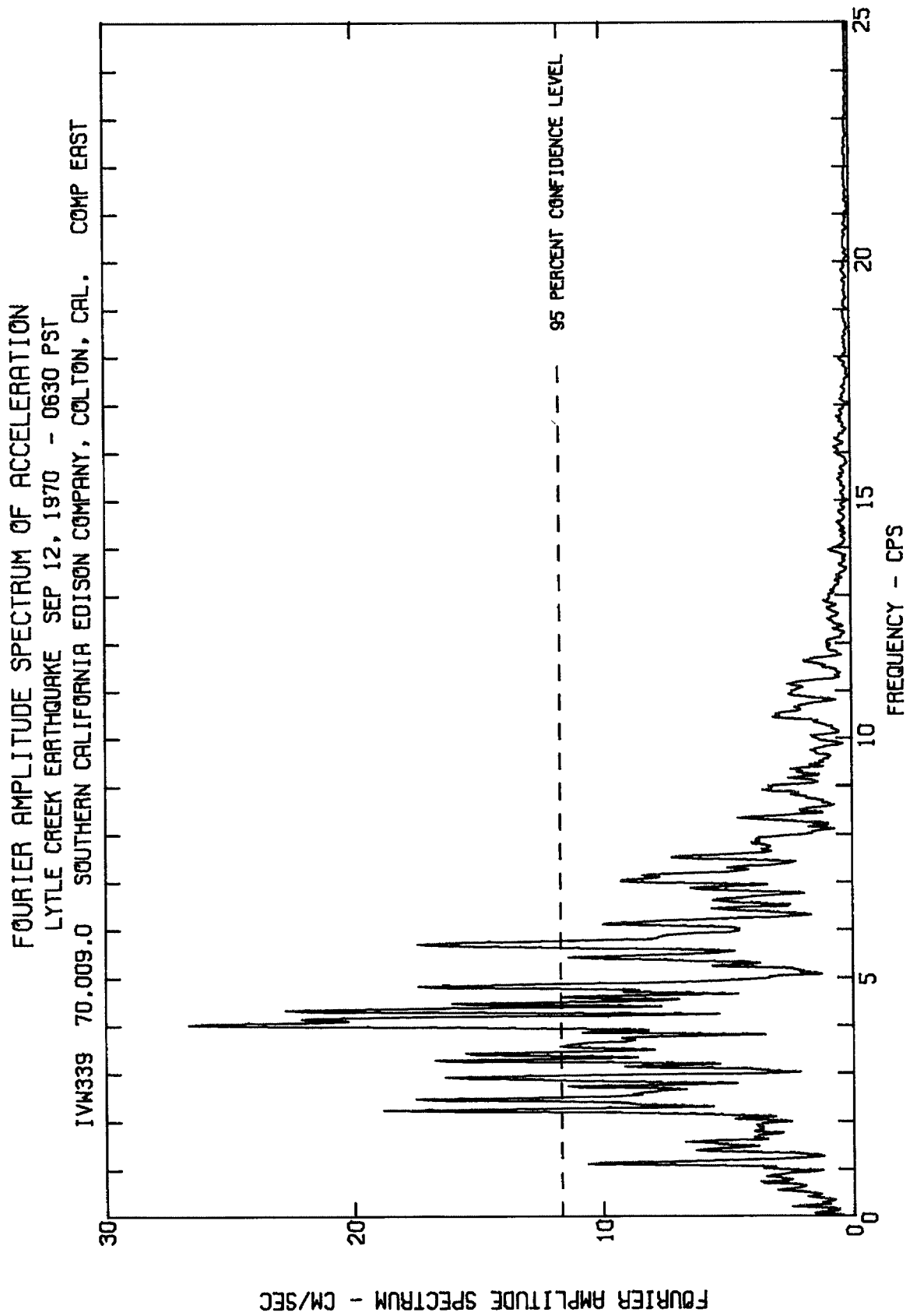
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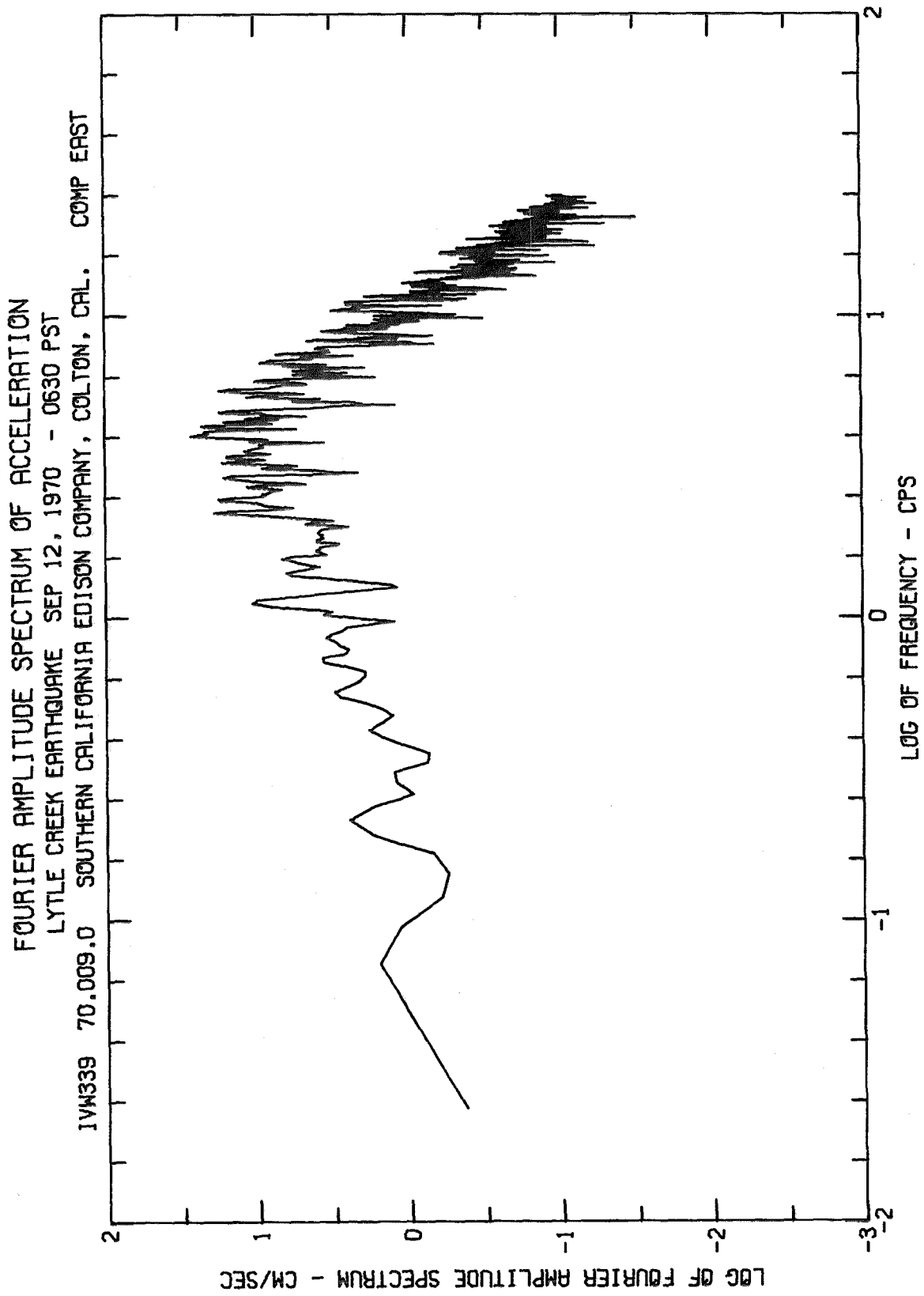
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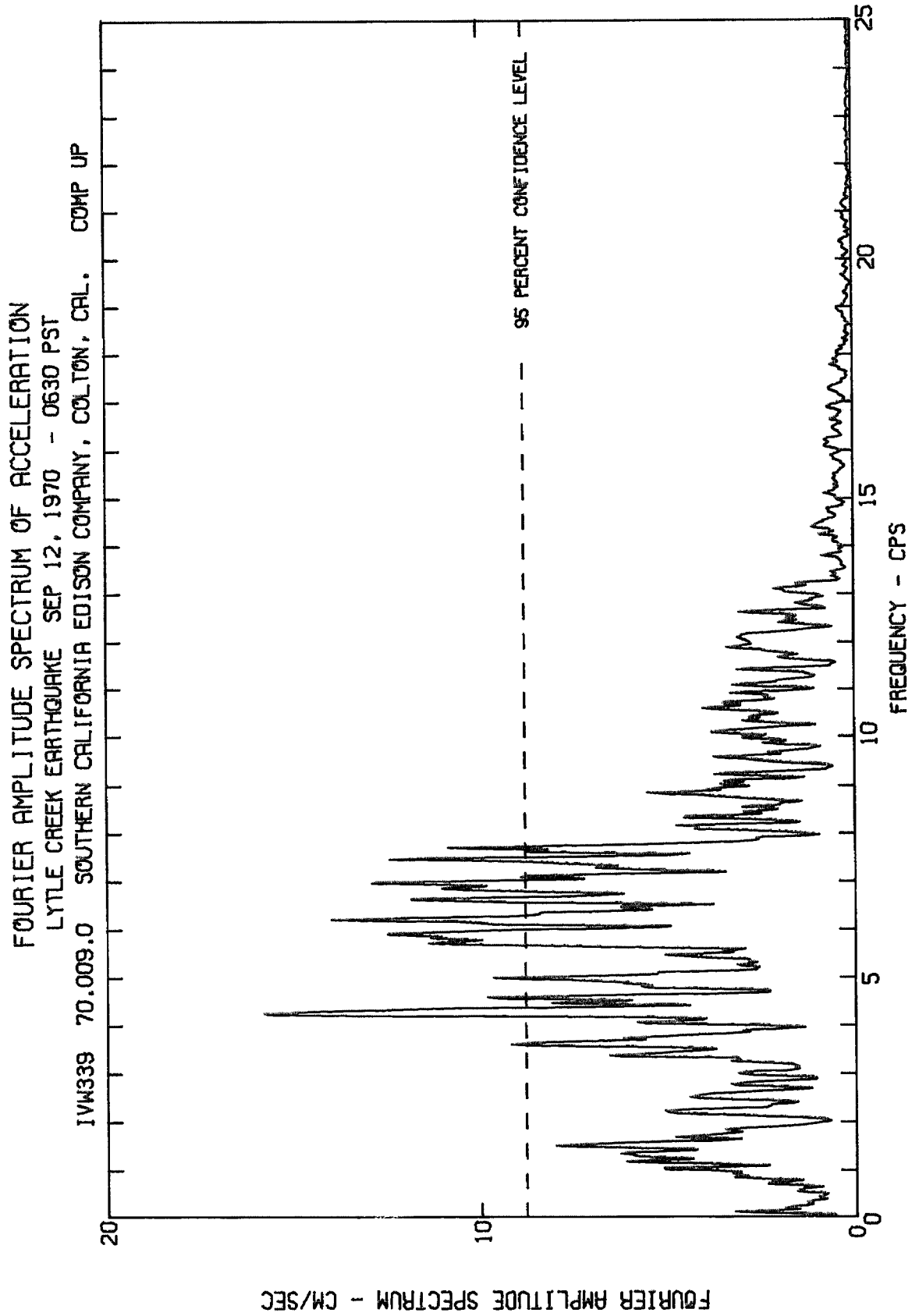
IVW339 70.009.0 SOUTHERN CALIFORNIA EDISON COMPANY, COLTON, CAL. COMP SOUTH



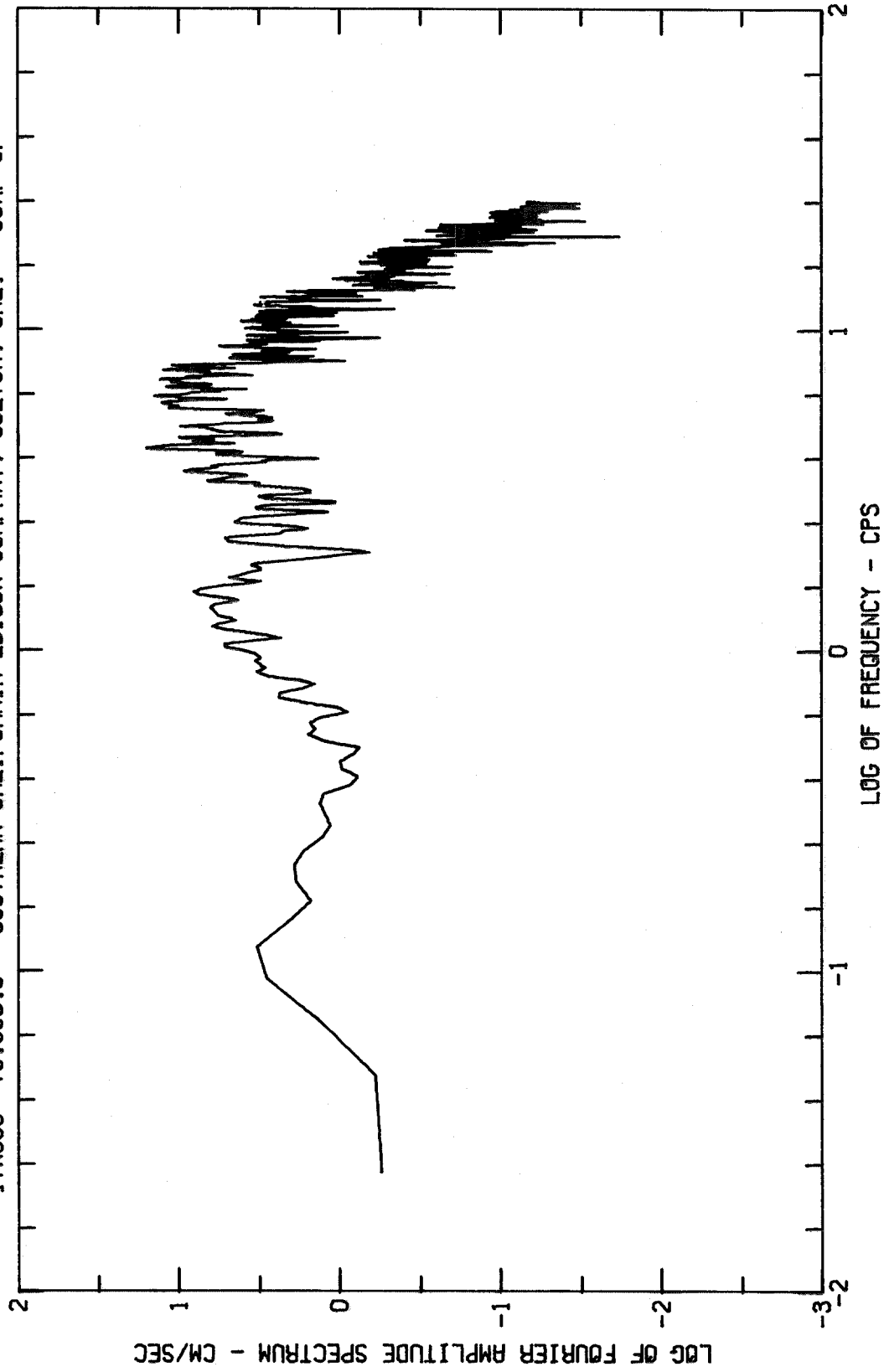


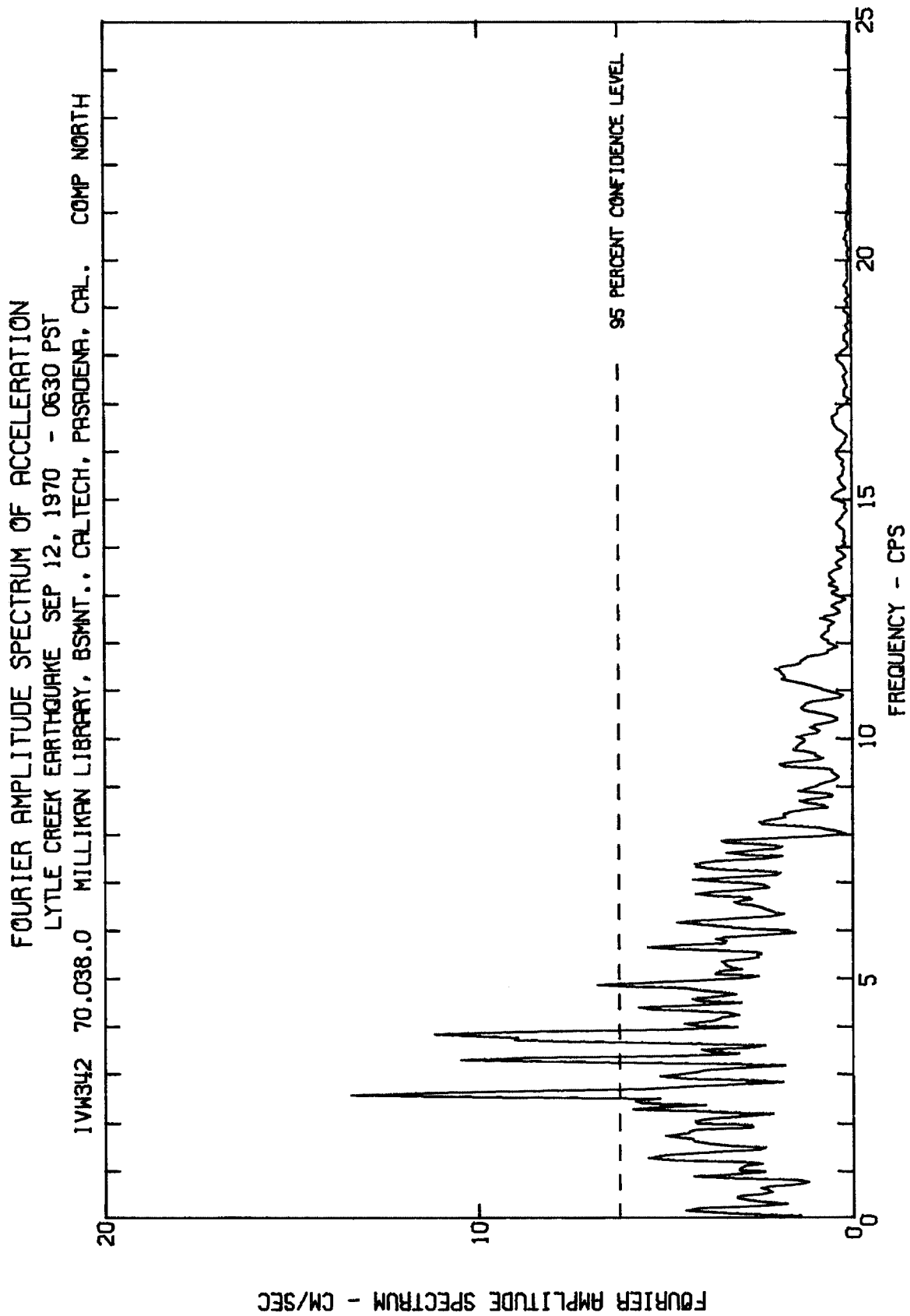


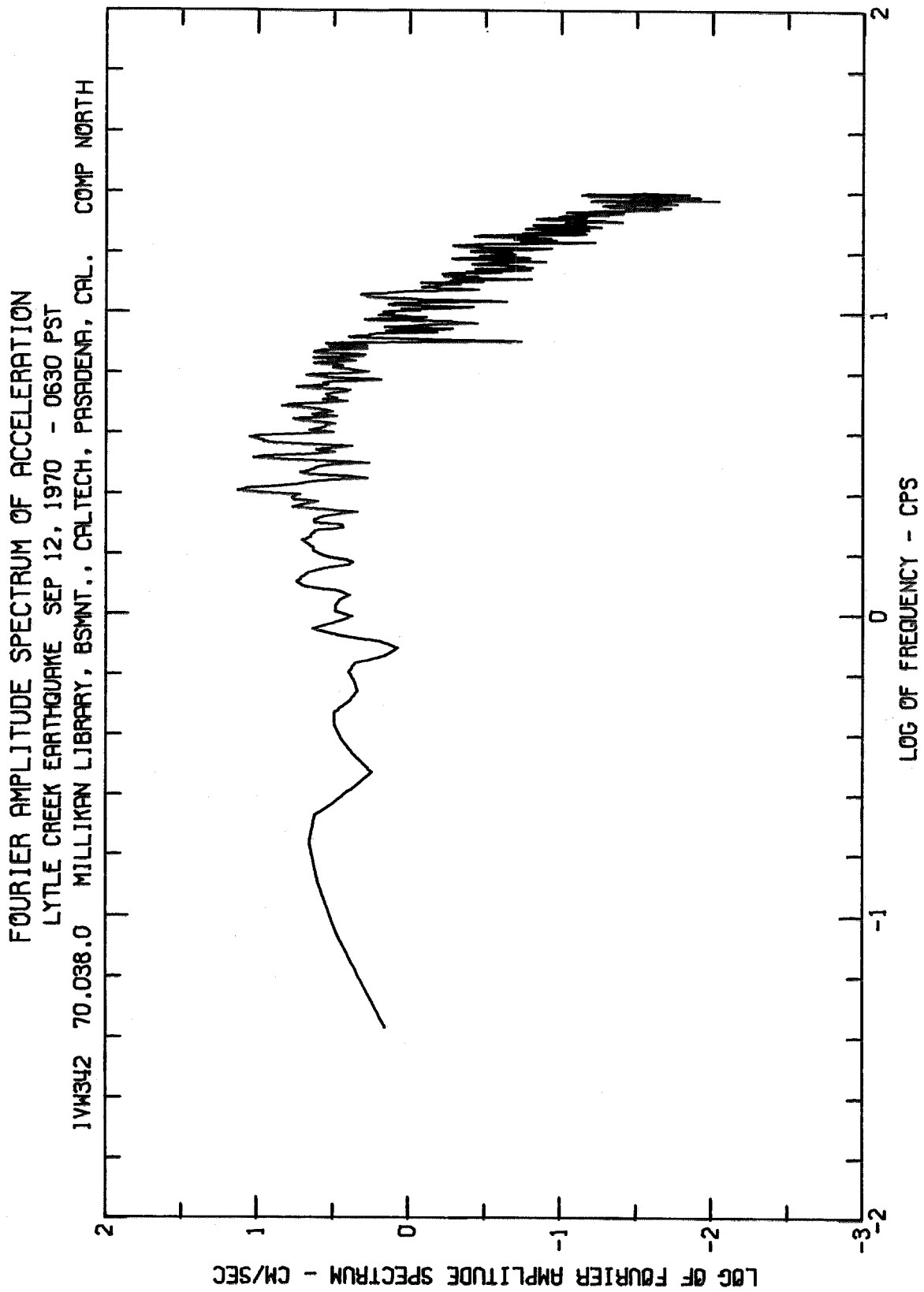


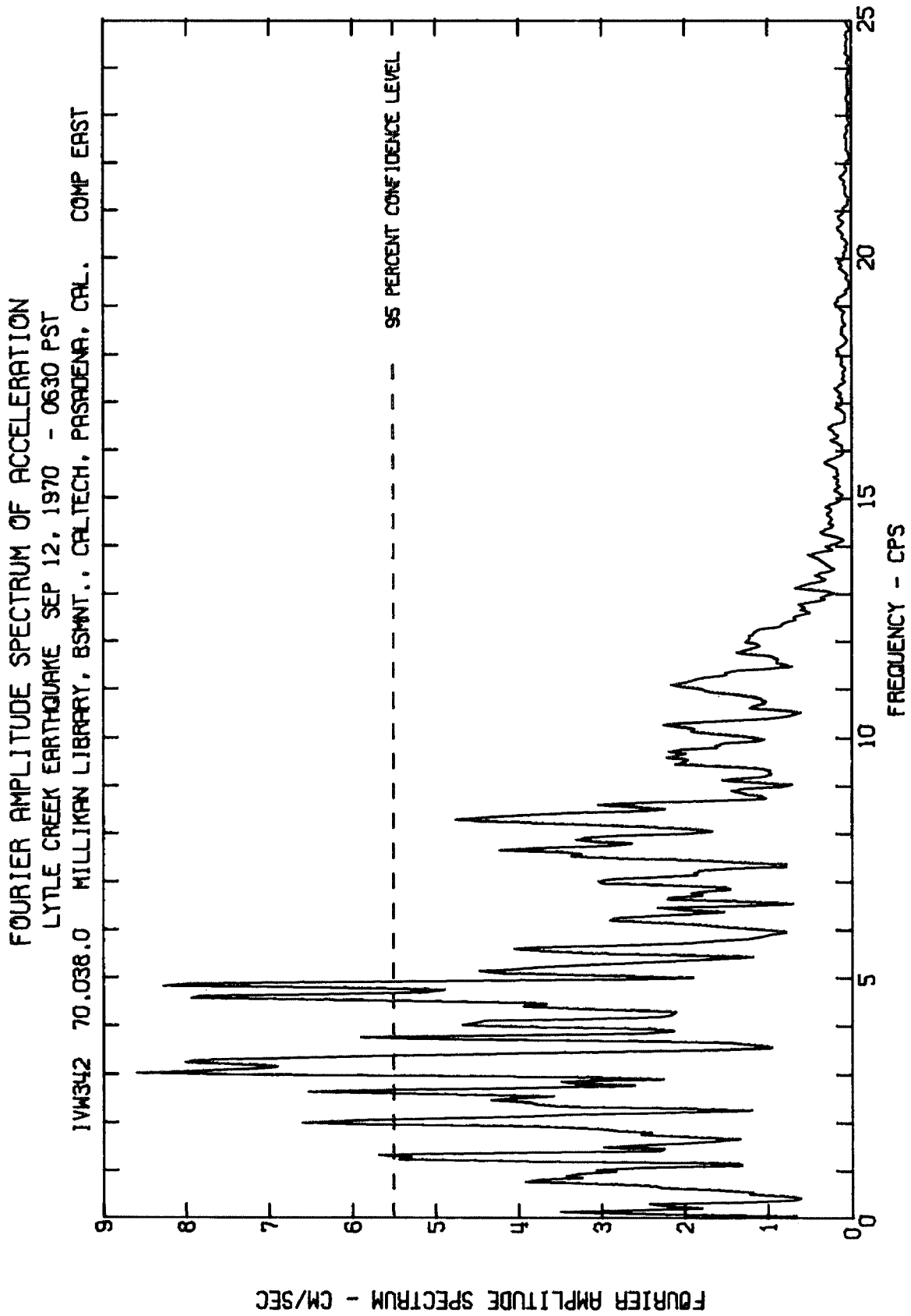


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
LYTLE CREEK EARTHQUAKE SEP 12, 1970 - 0630 PST
1VW339 70.009.0 SOUTHERN CALIFORNIA EDISON COMPANY, COLTON, CAL. COMP UP





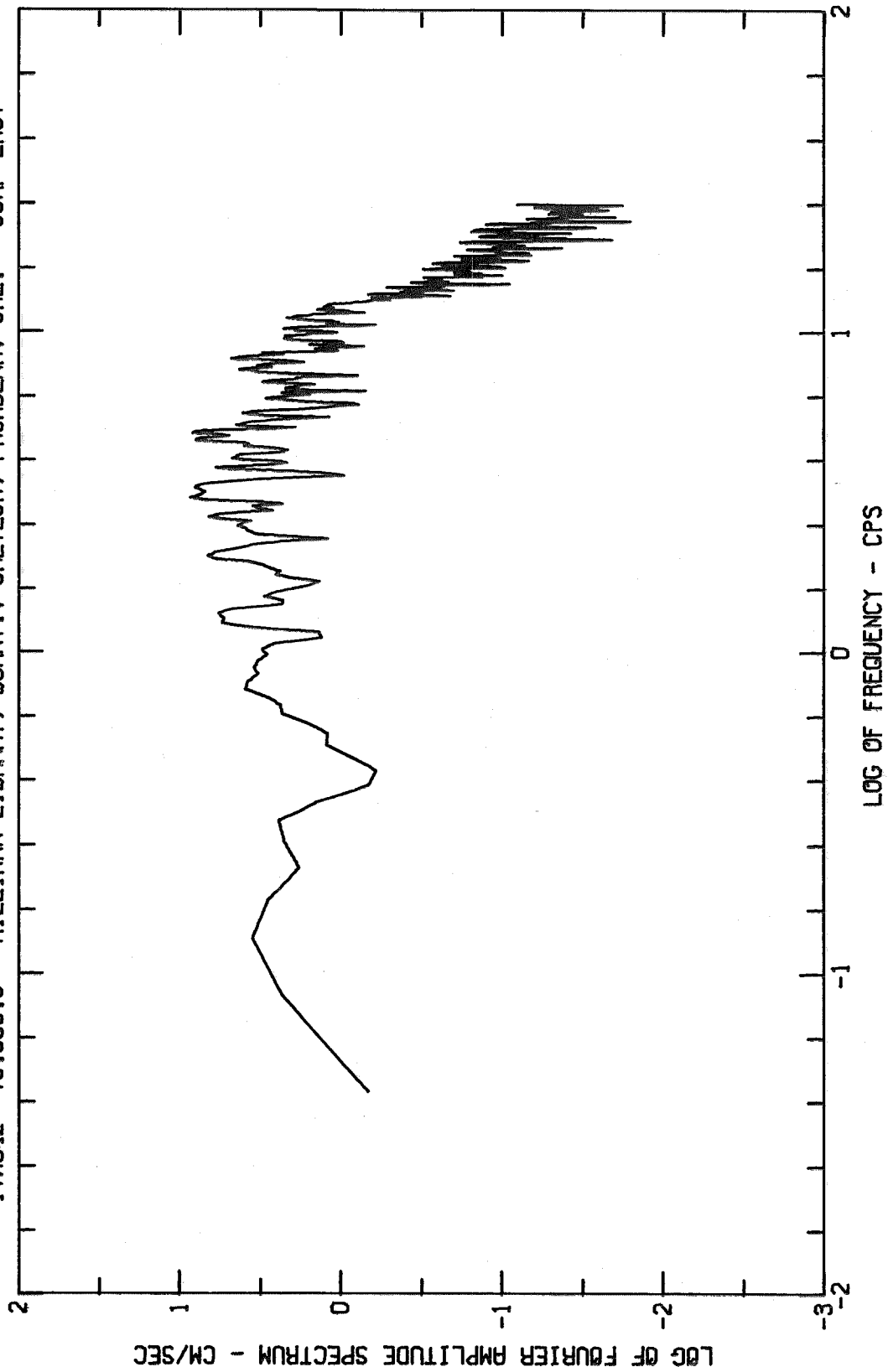




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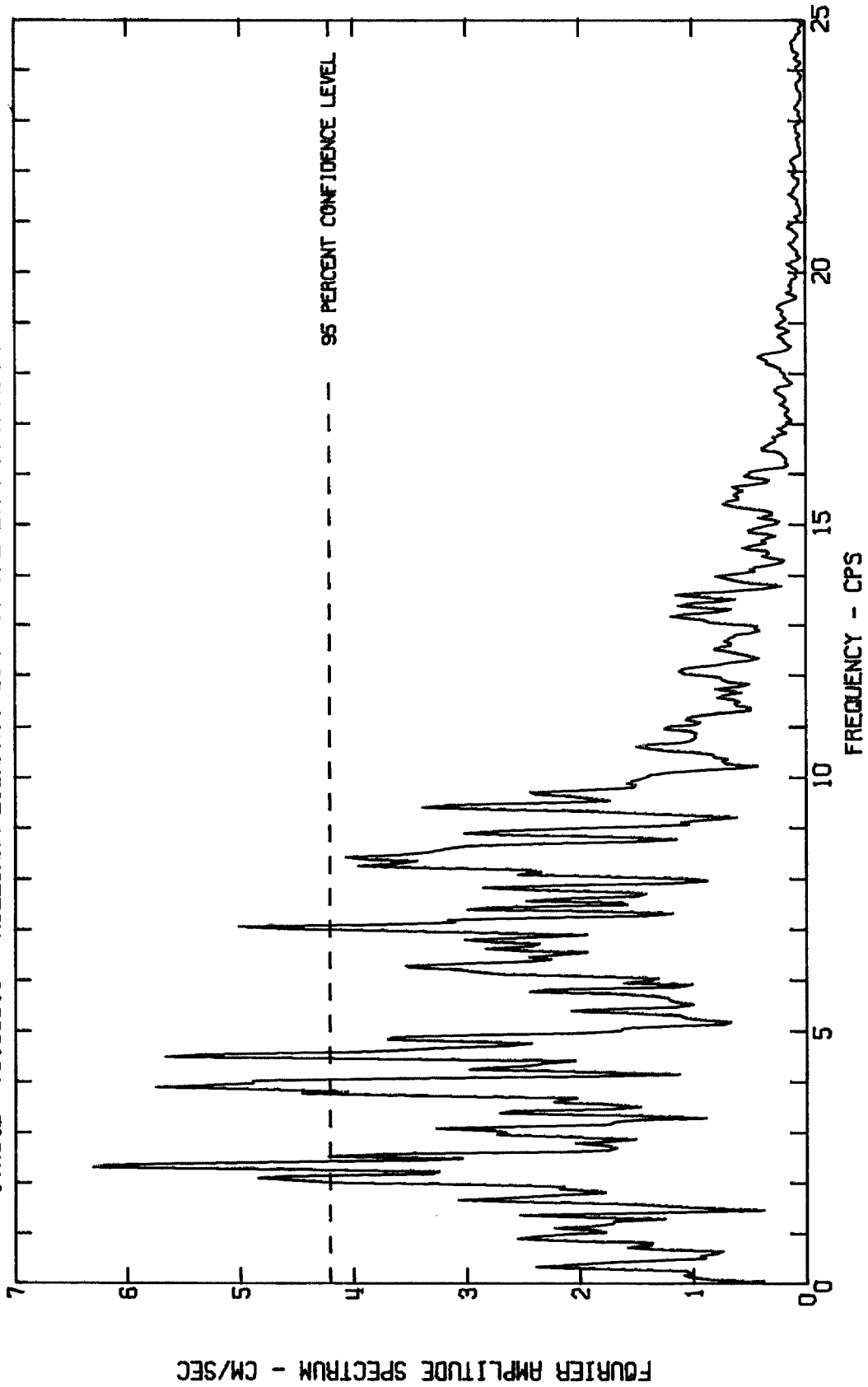
1VW342 70.038.0 MILLIKAN LIBRARY, BSMNT., CALTECH, PASADENA, CAL. COMP EAST



FOURIER AMPLITUDE SPECTRUM OF ACCELERATION

LYTLE CREEK EARTHQUAKE SEP 12, 1970 - 0630 PST

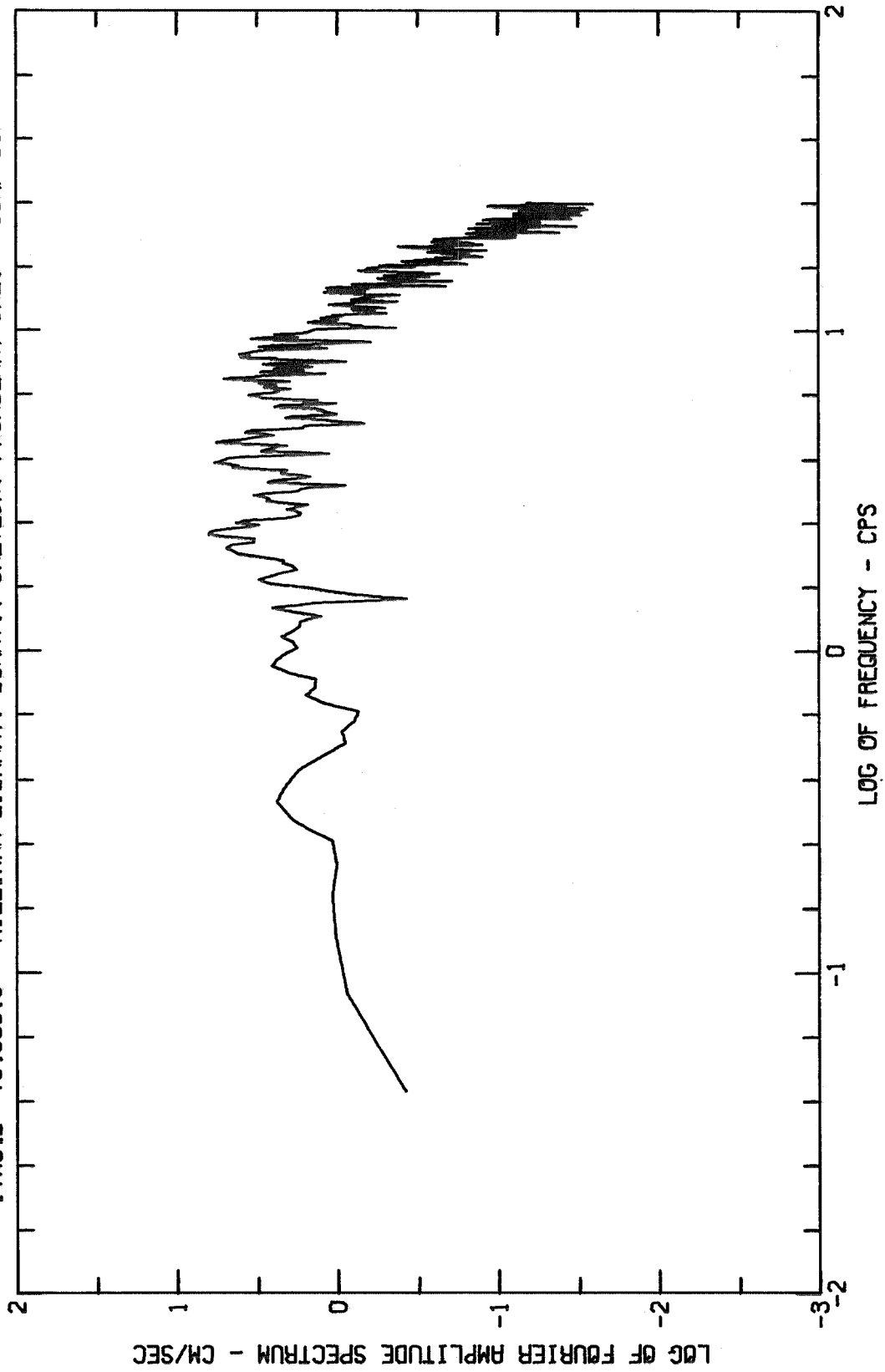
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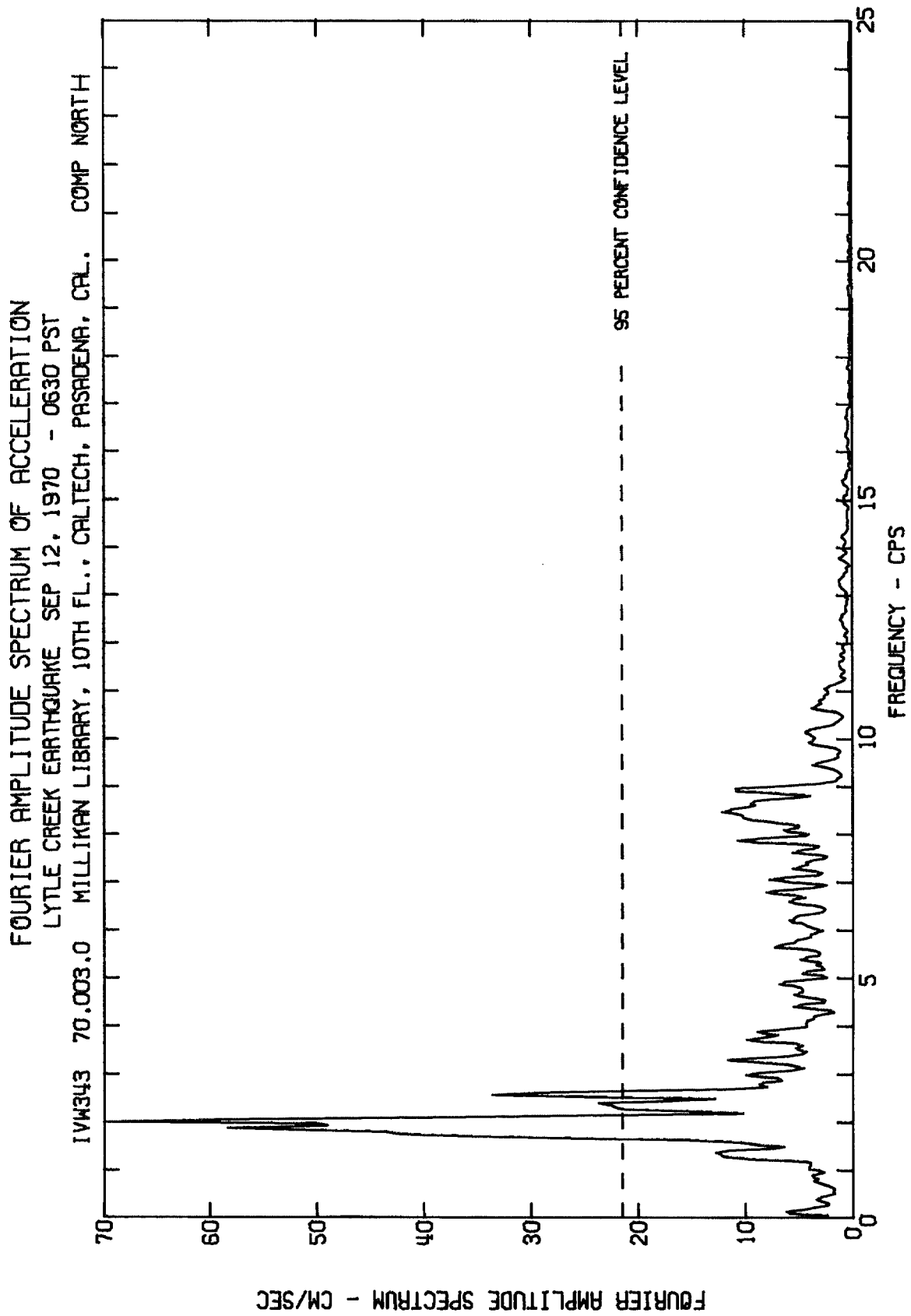


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION

LYTLE CREEK EARTHQUAKE SEP 12, 1970 - 0630 PST

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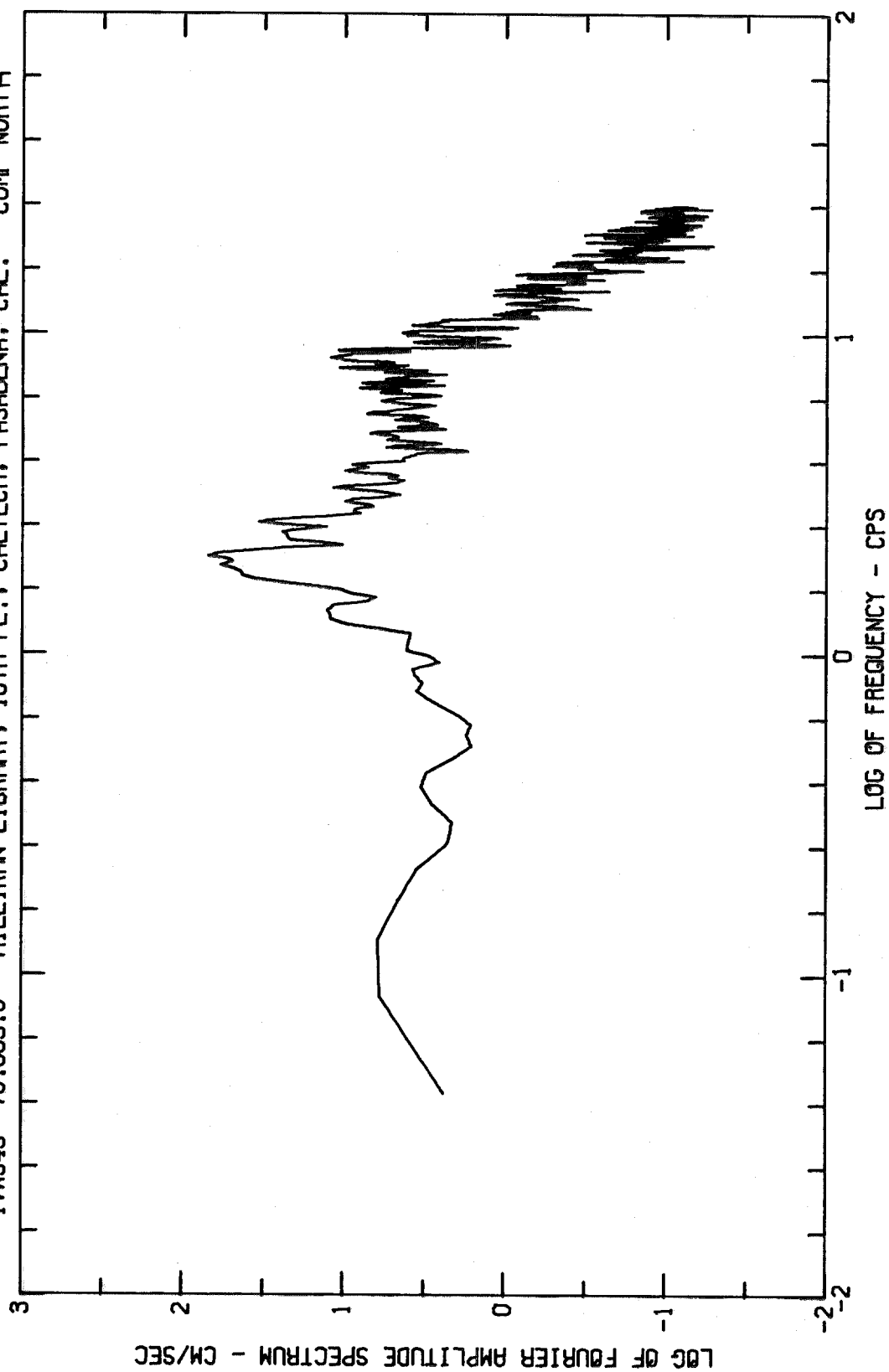


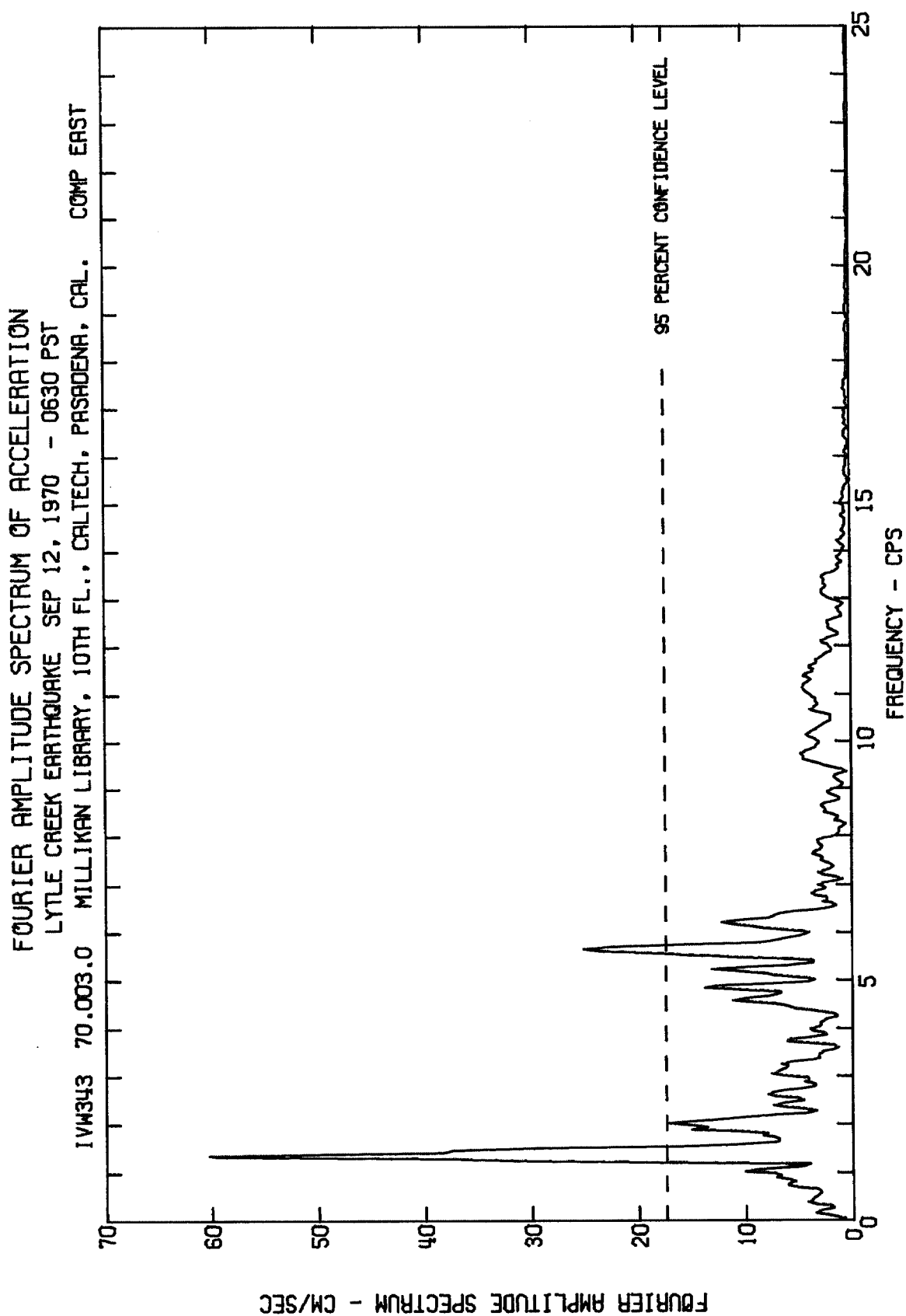


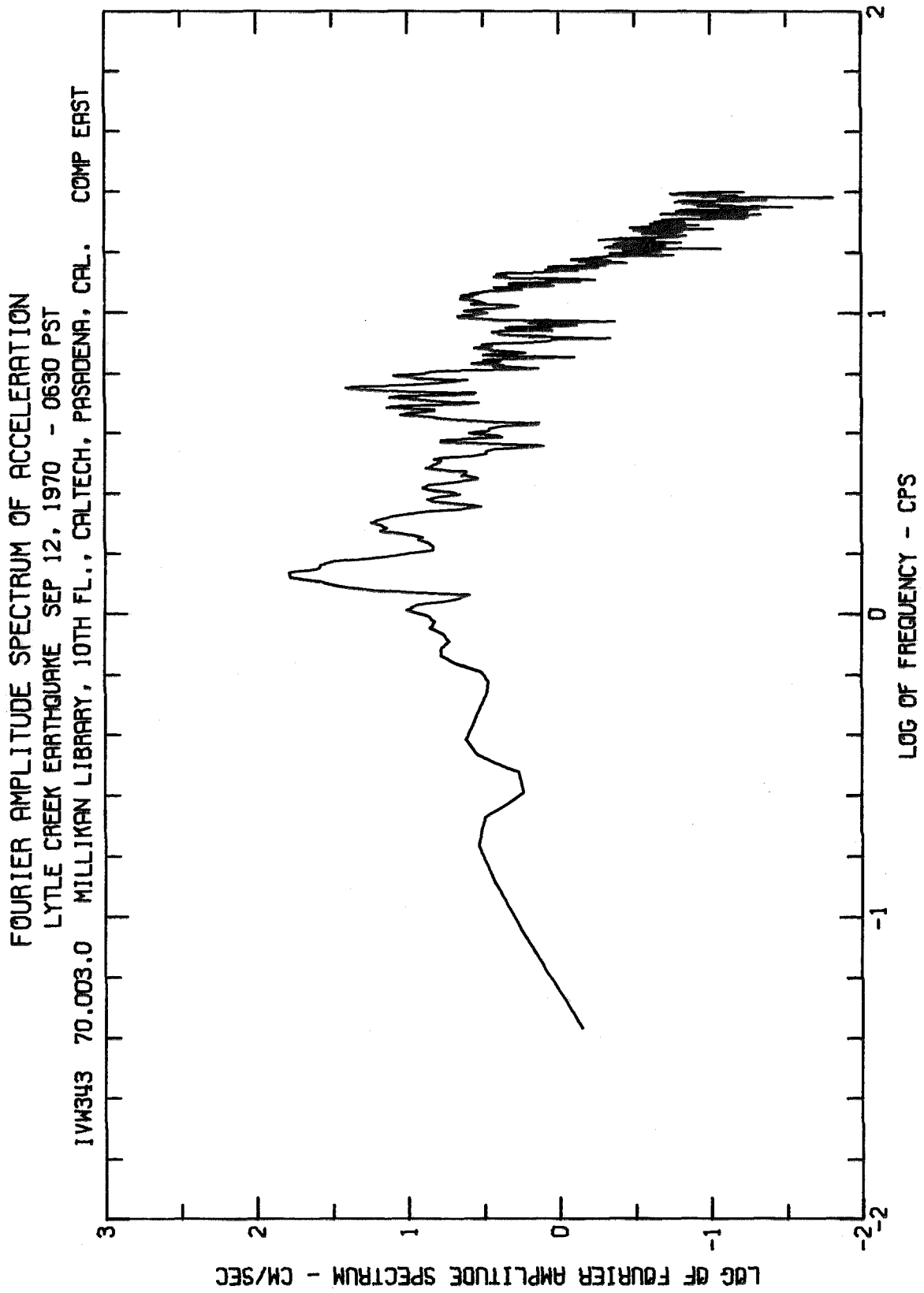
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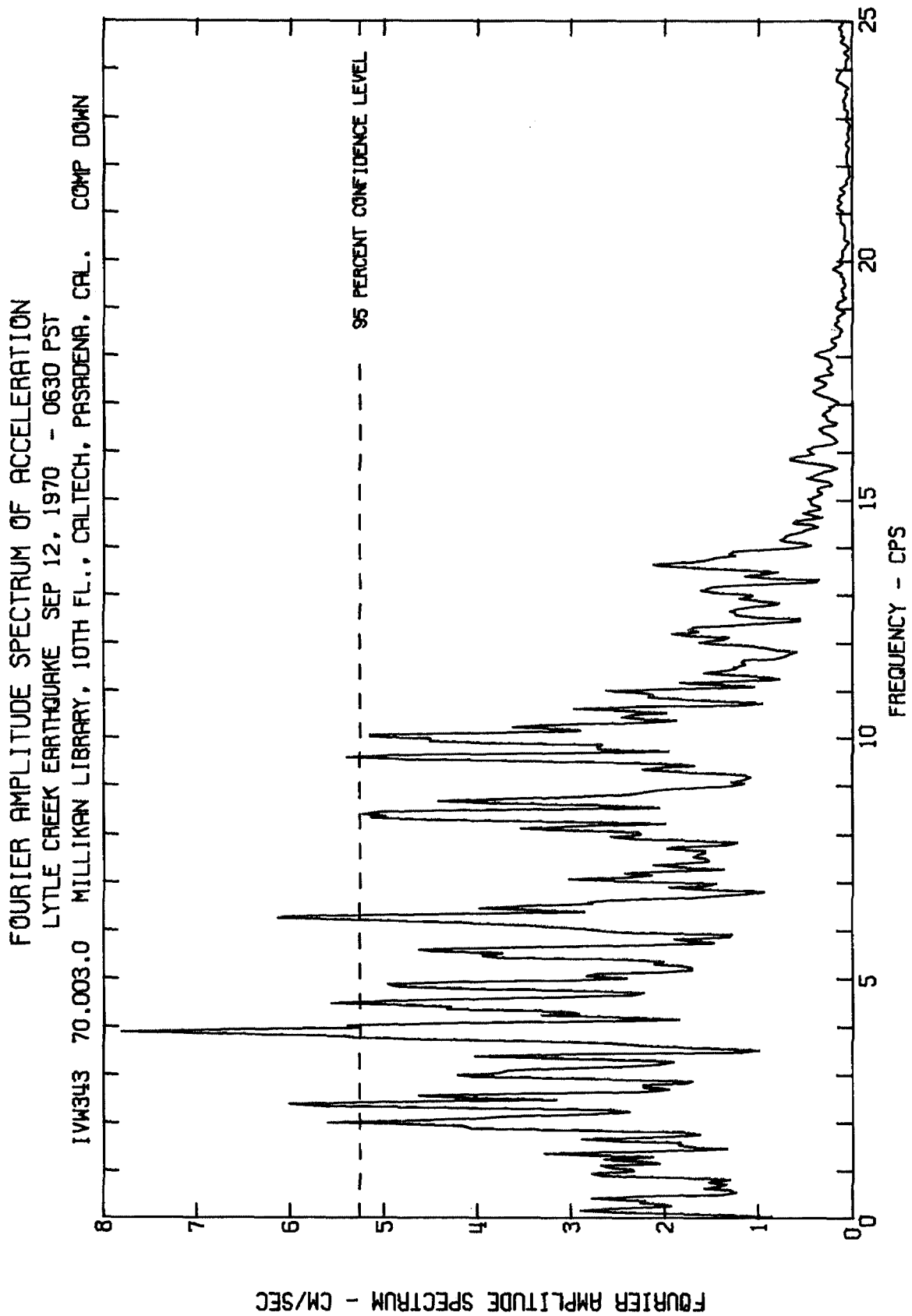
LYTLE CREEK EARTHQUAKE SEP 12, 1970 - 0630 PST

IVH343 70.003.0 MILLIKAN LIBRARY, 10TH FL., CALTECH, PASADENA, CAL. COMP NORTH





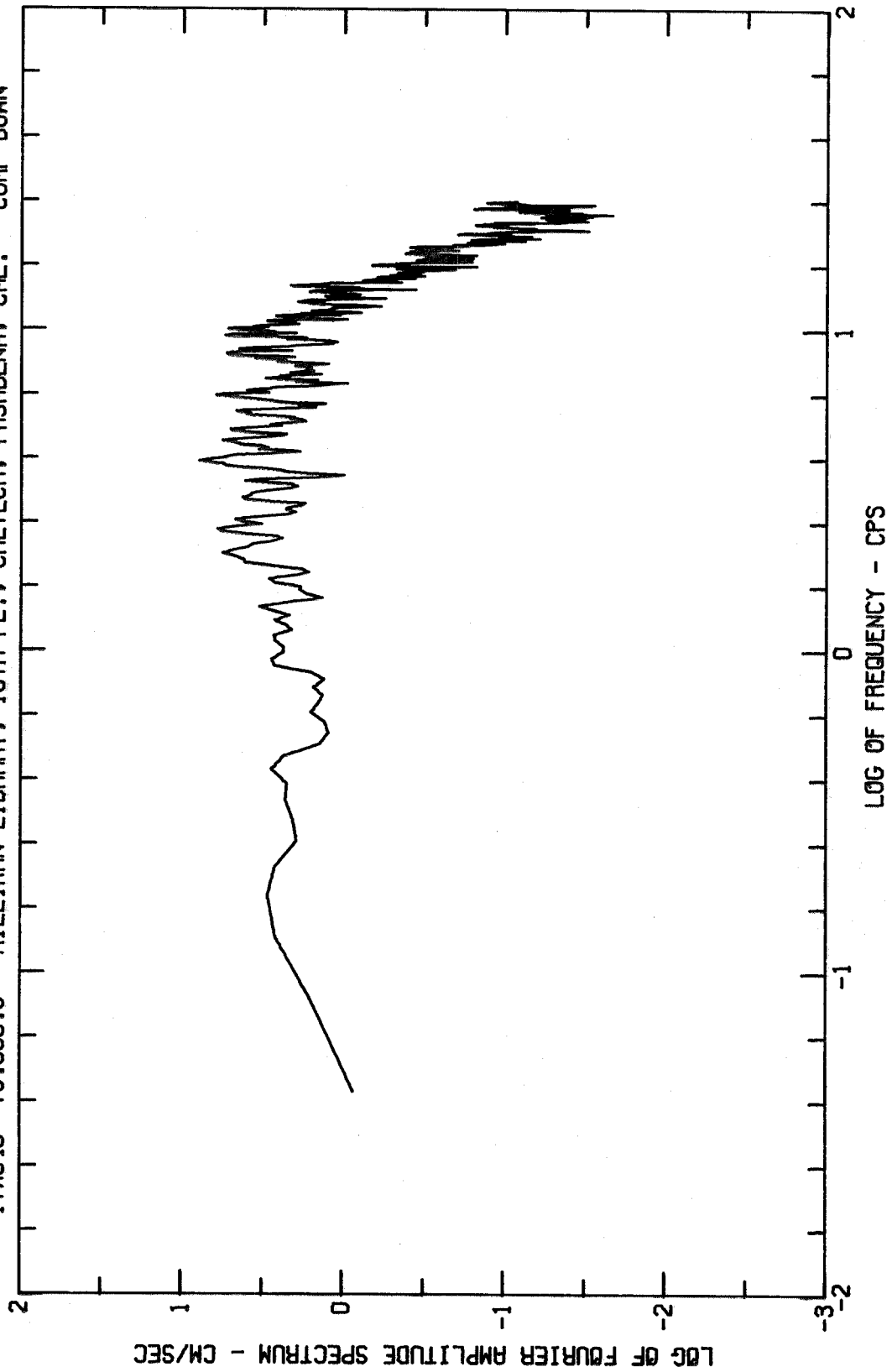




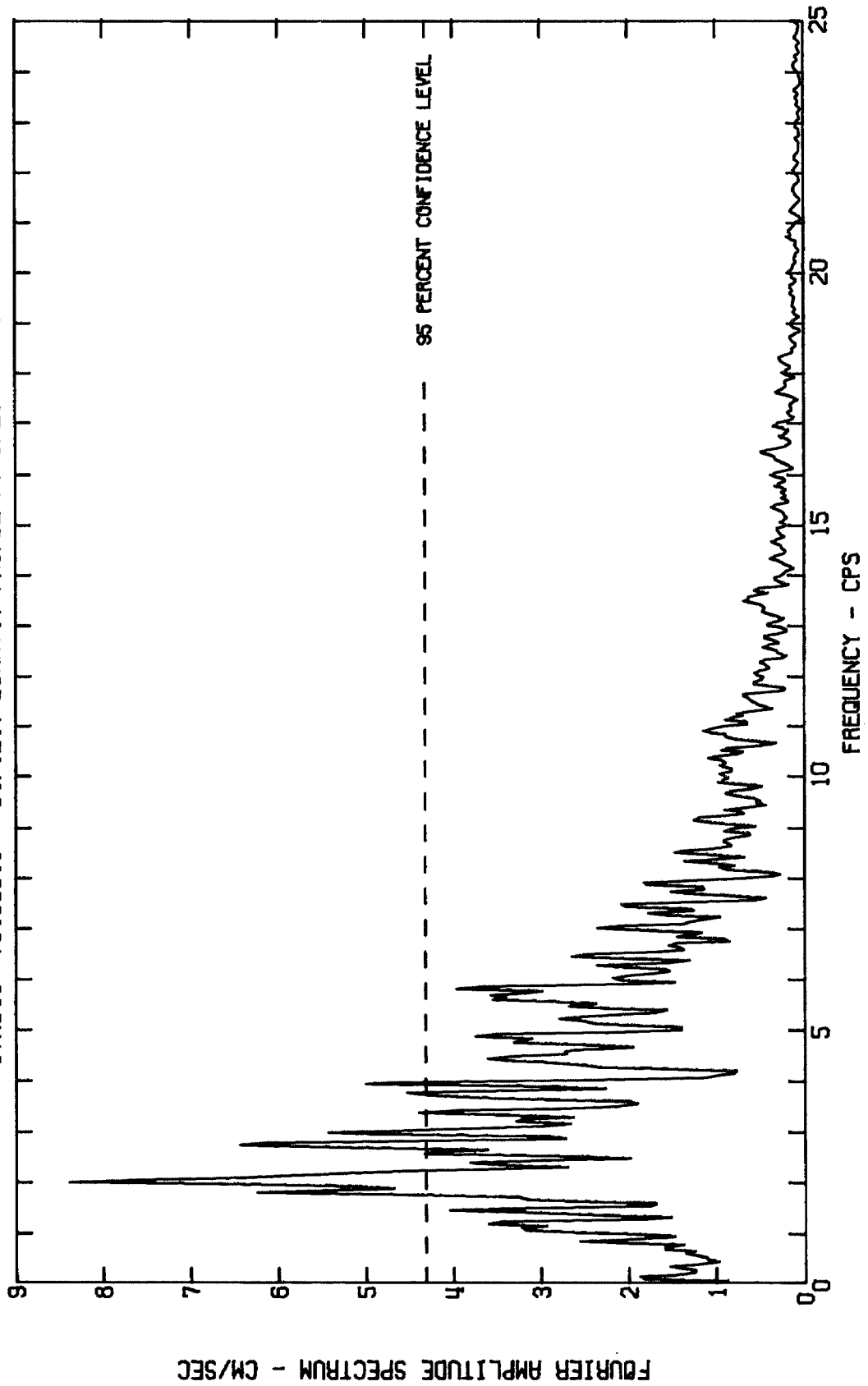
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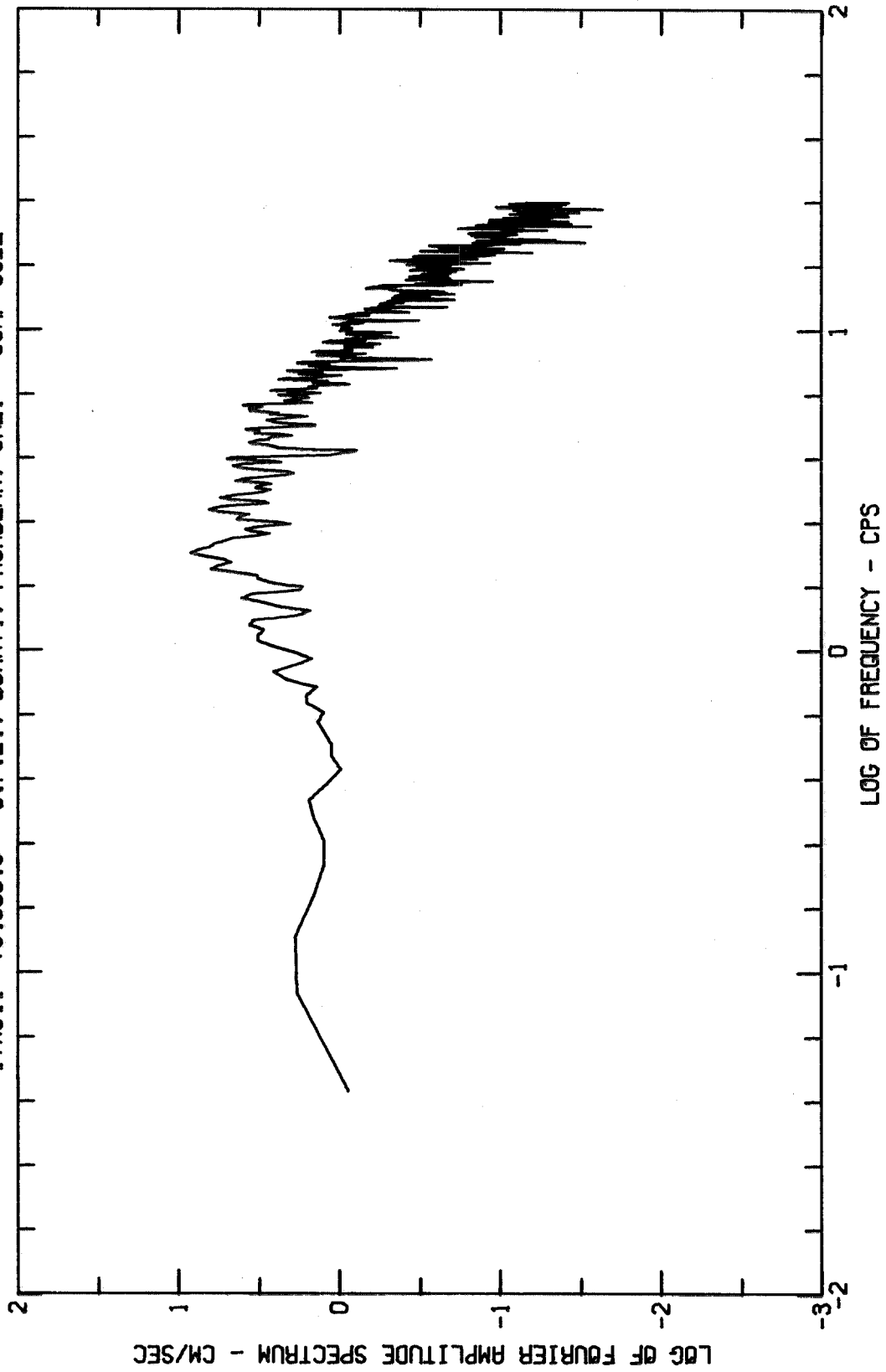
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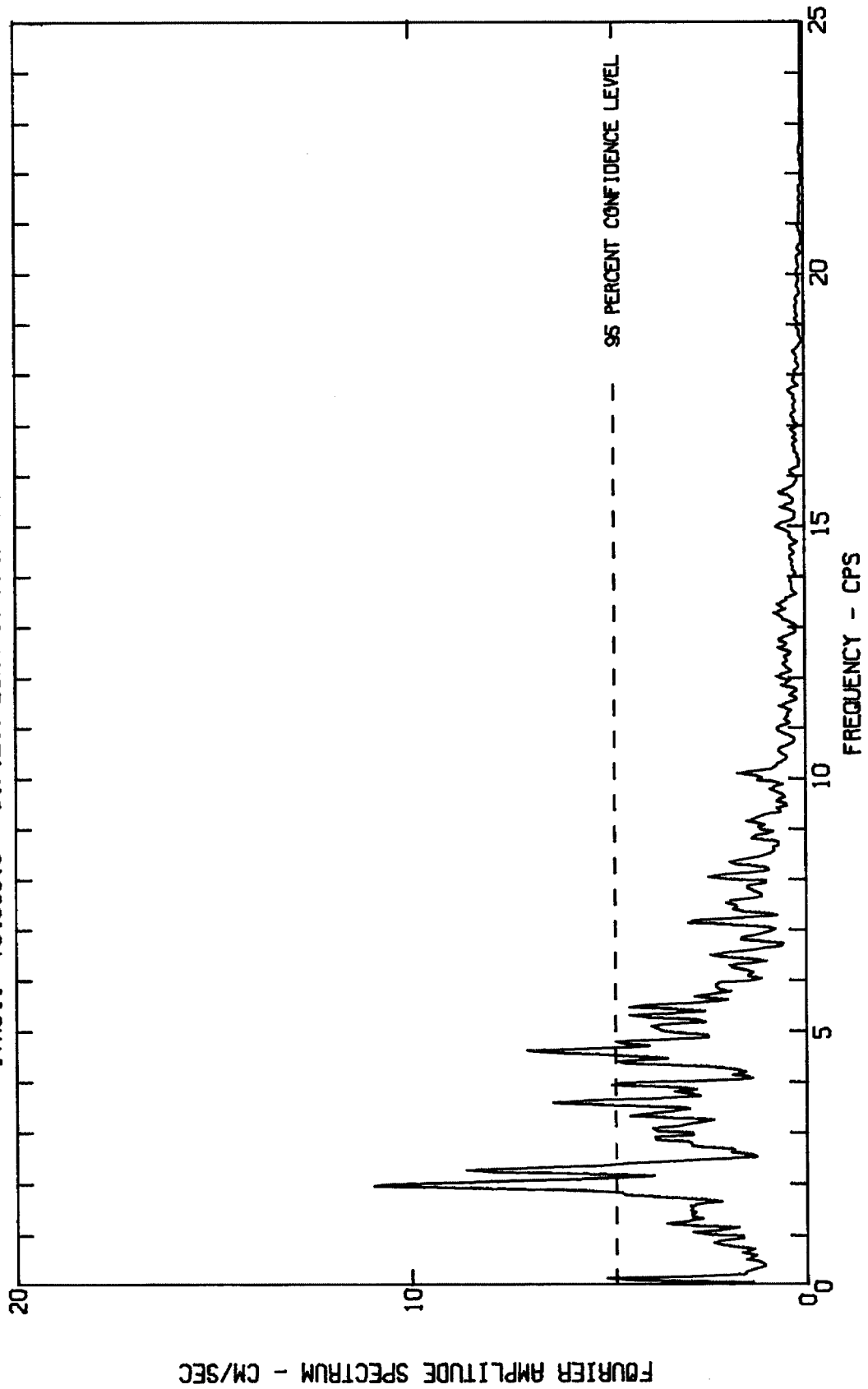
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LYTLE CREEK EARTHQUAKE SEP 12, 1970 - 0630 PST
1VW344 70.039.0 J.P.L., BSMNT., PASADENA, CAL. COMP S82E



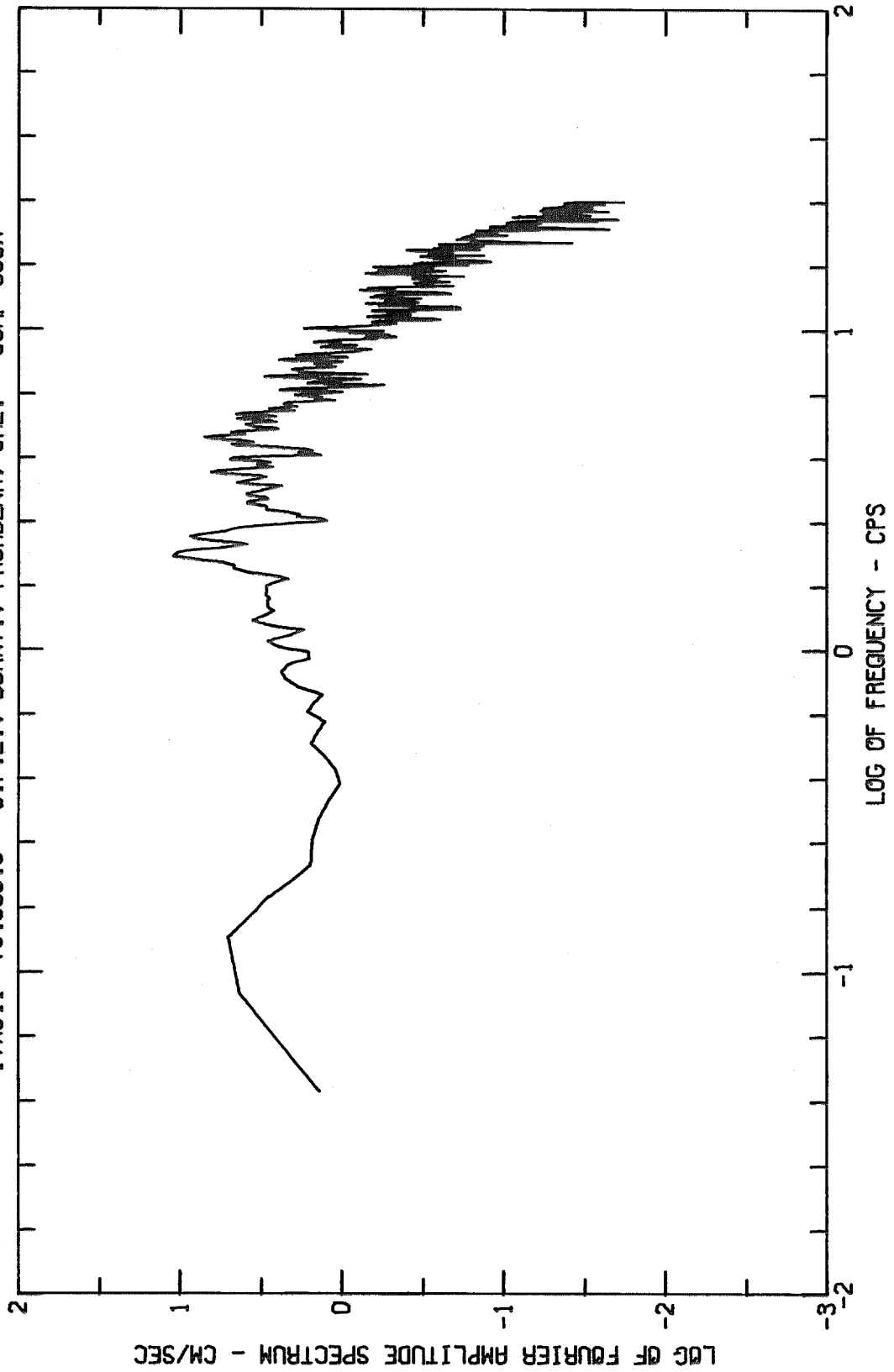
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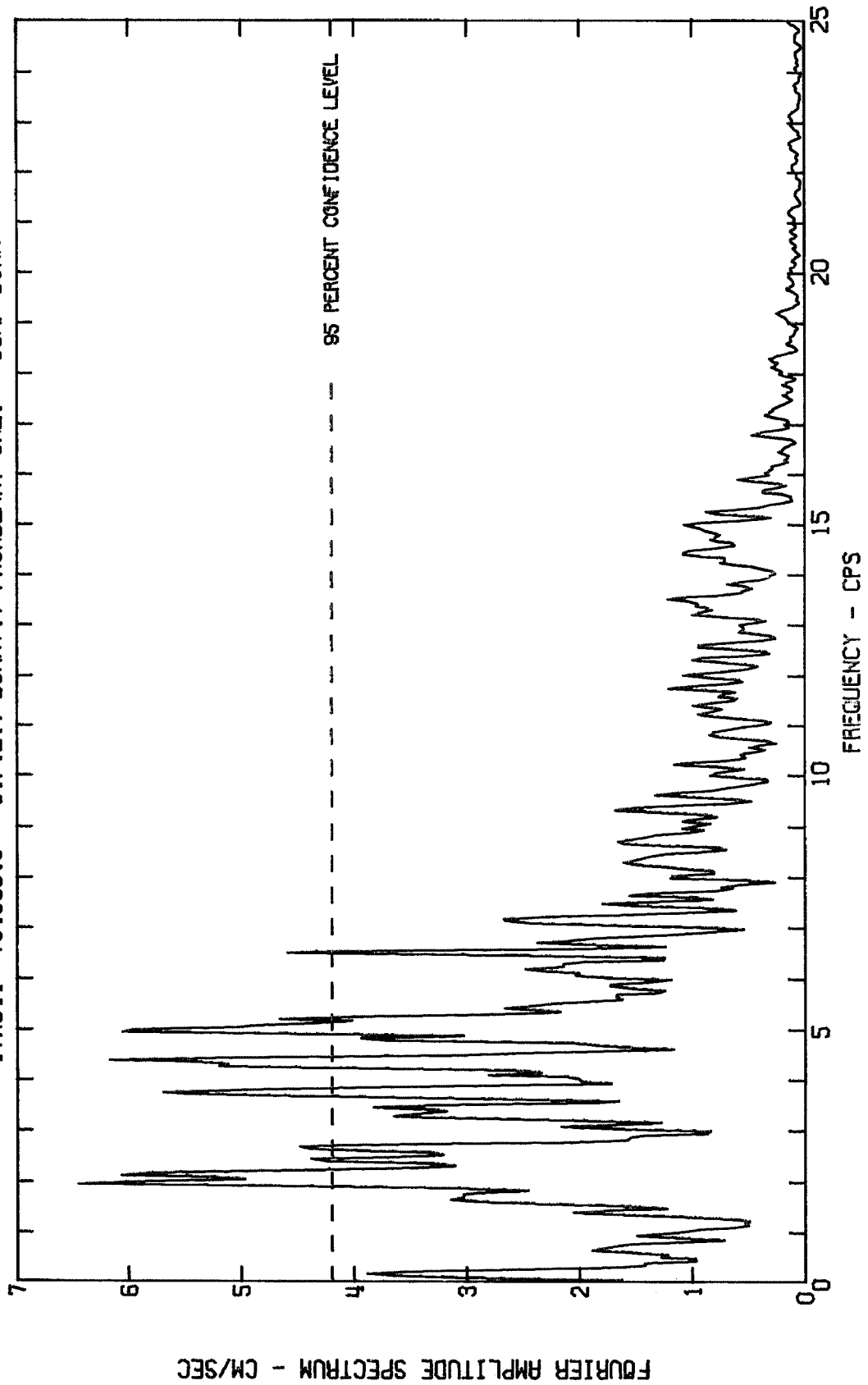
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IVW344 70.039.0 J.P.L., BSMNT., PASADENA, CAL. COMP S08W



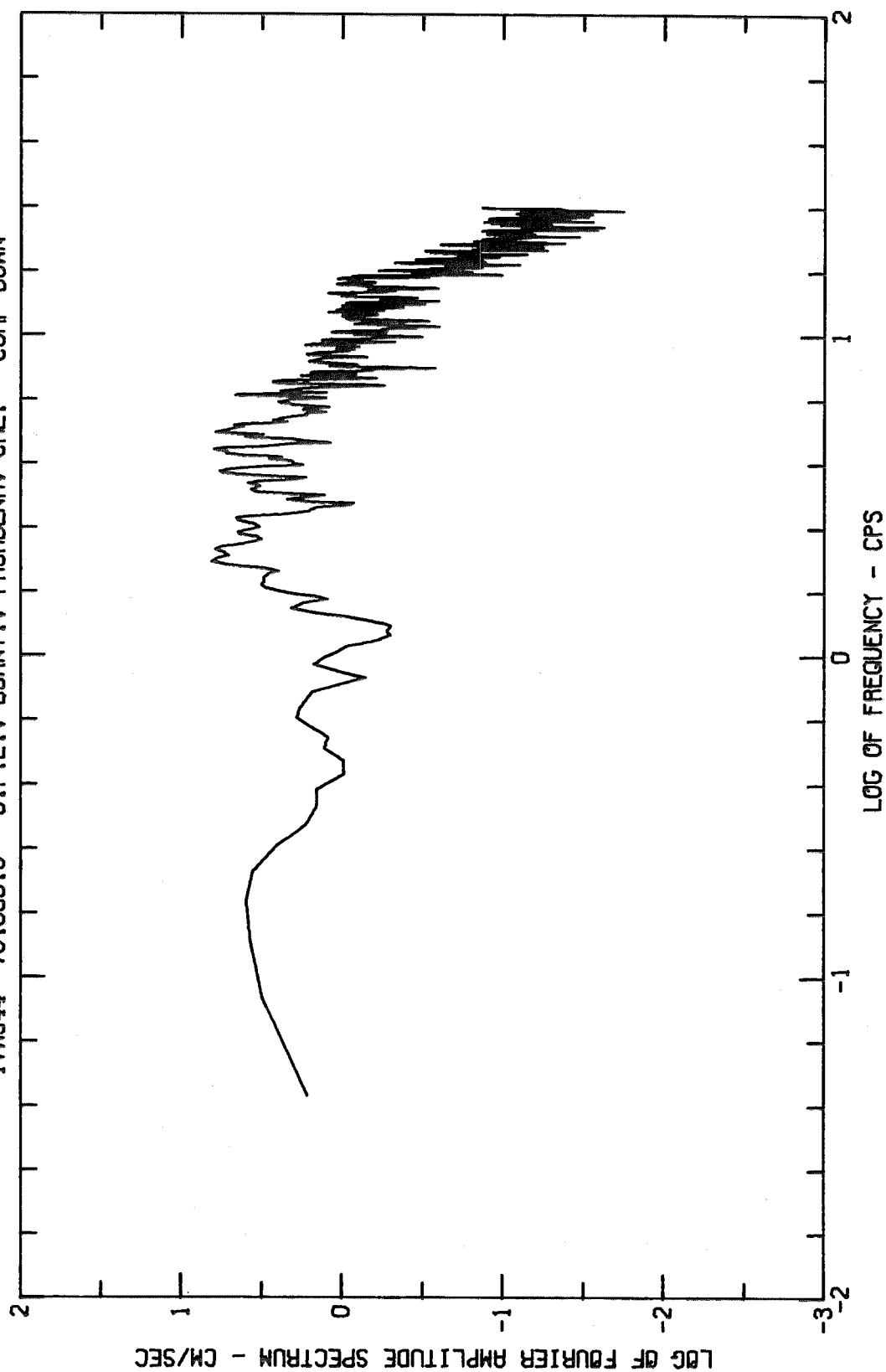
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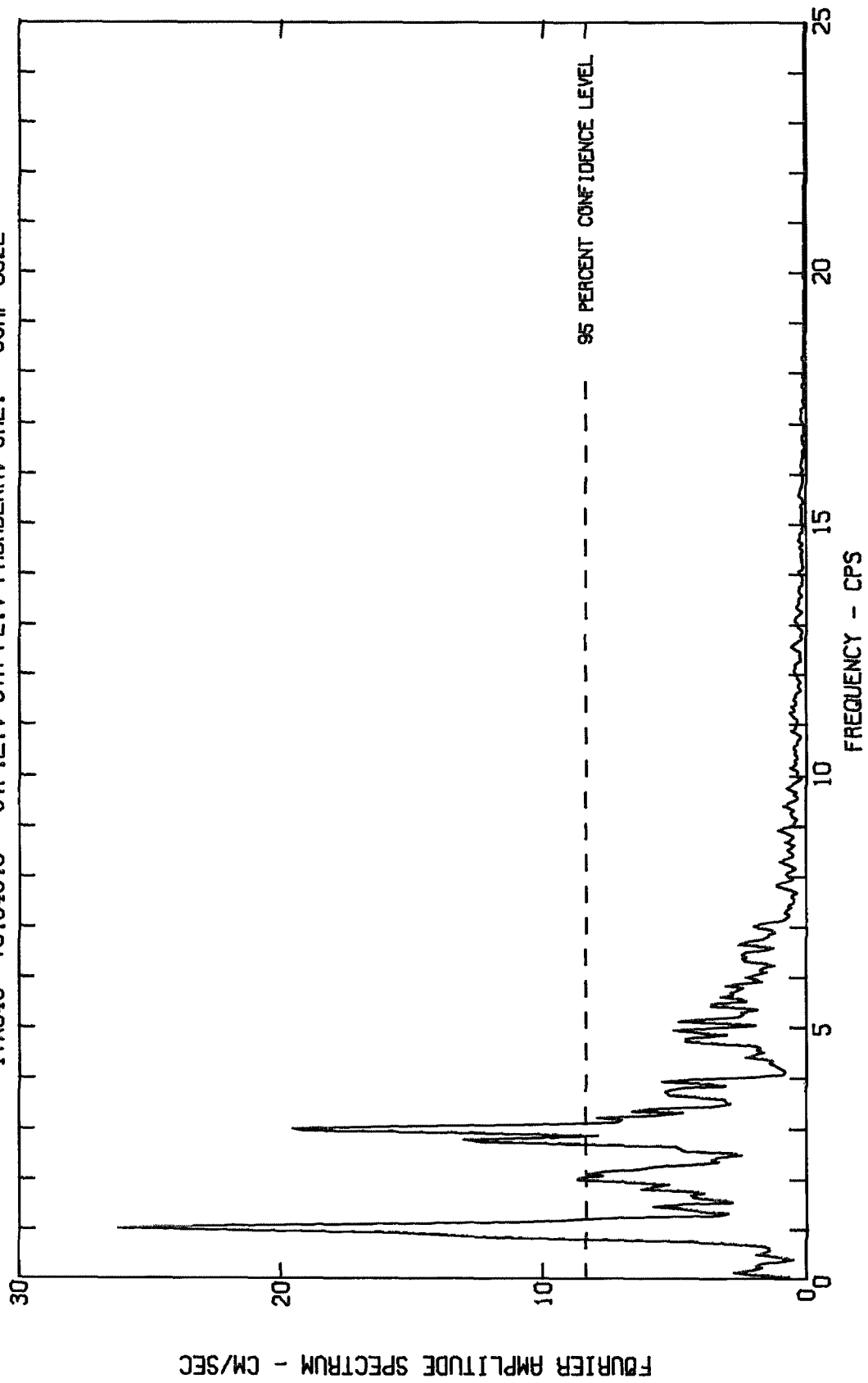
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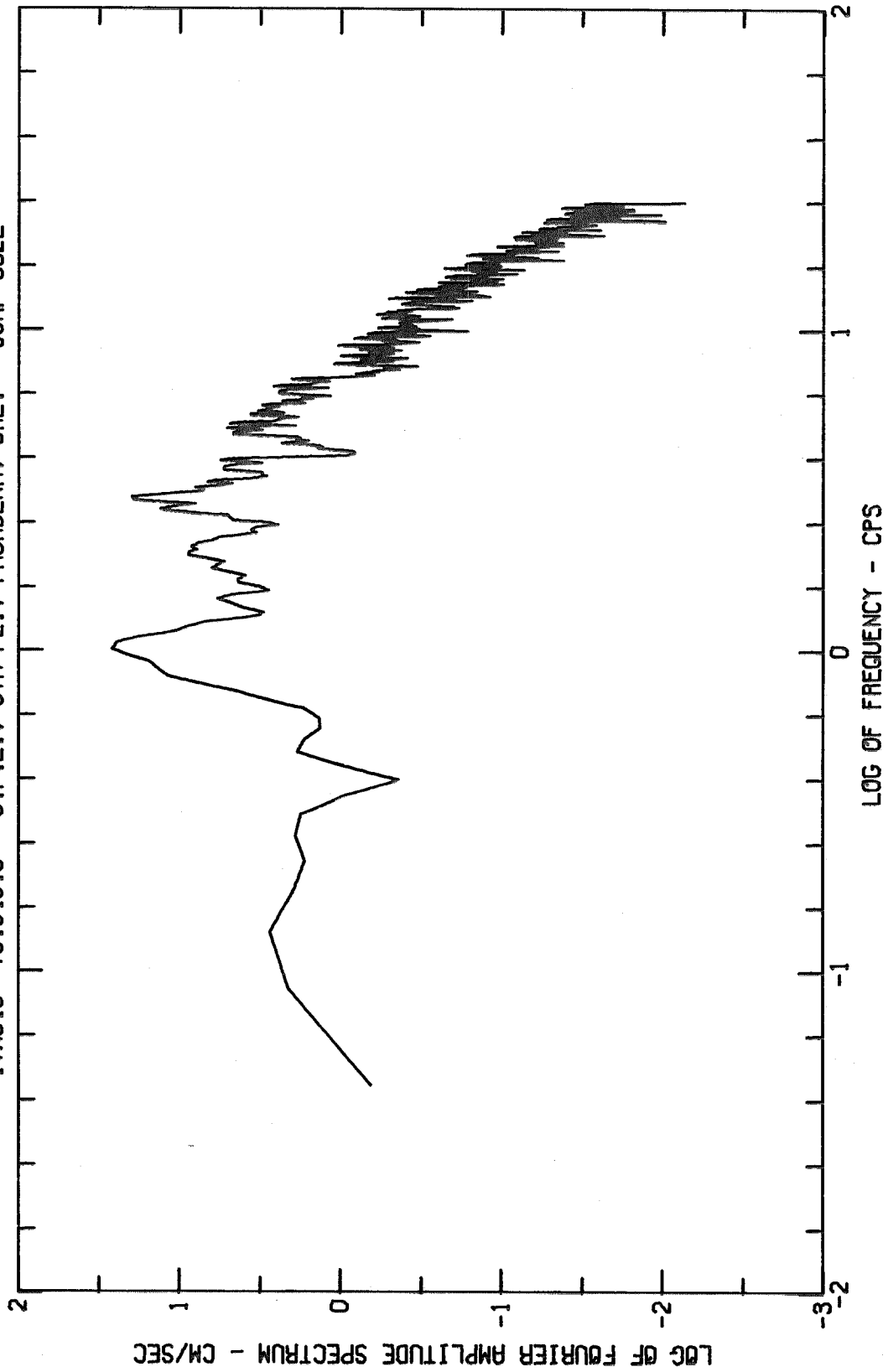
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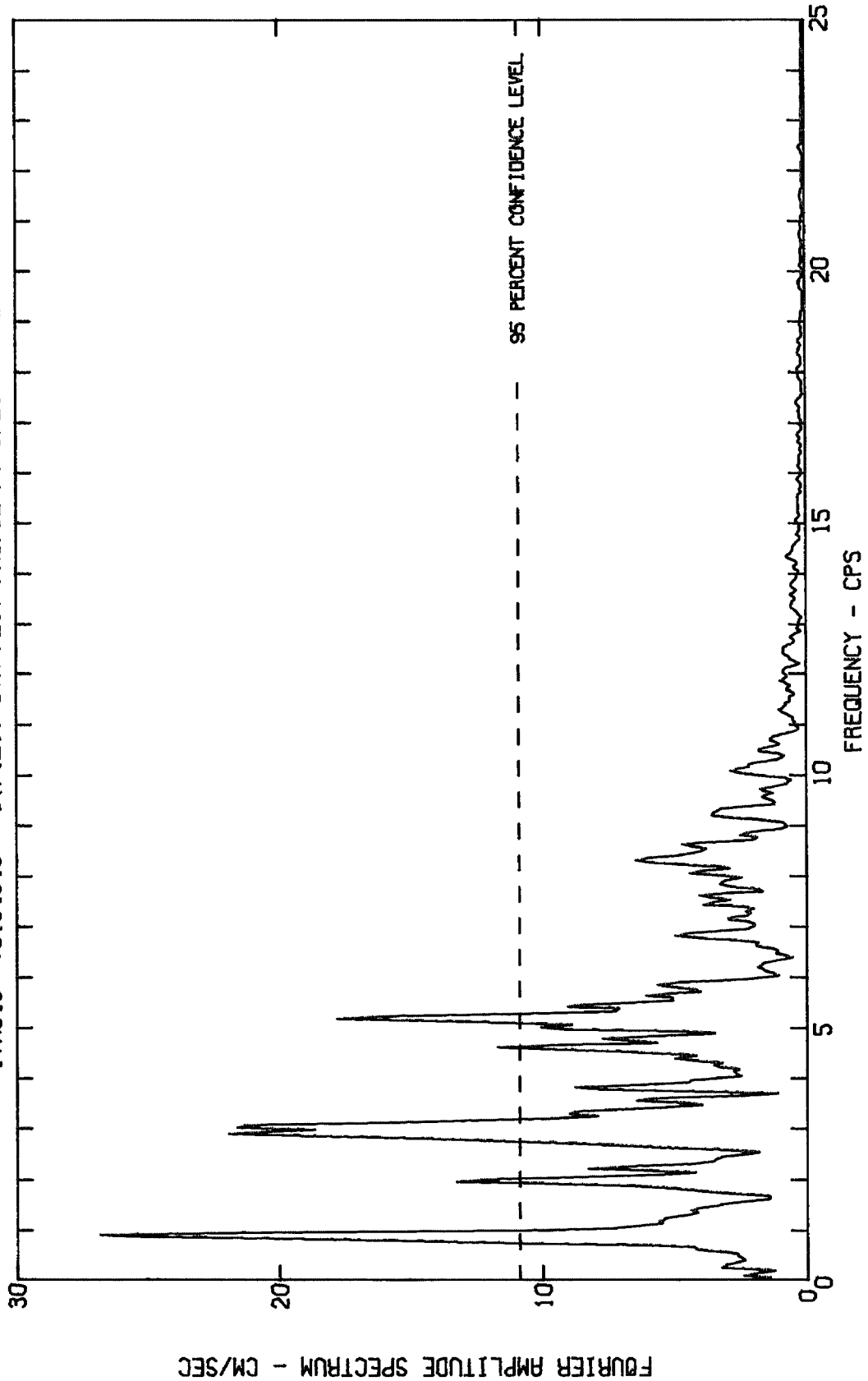
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LYTLE CREEK EARTHQUAKE SEP 12, 1970 - 0630 PST
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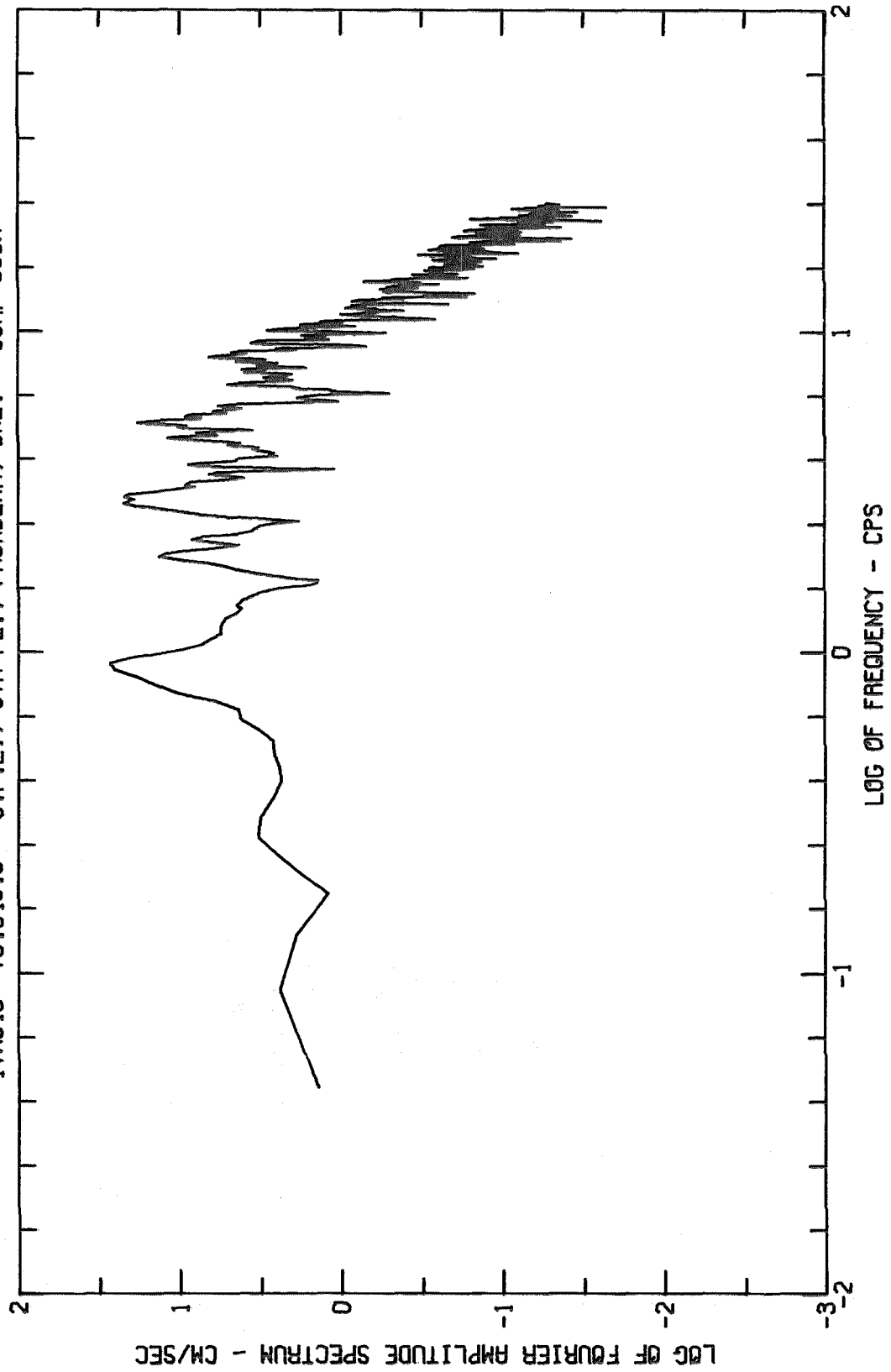
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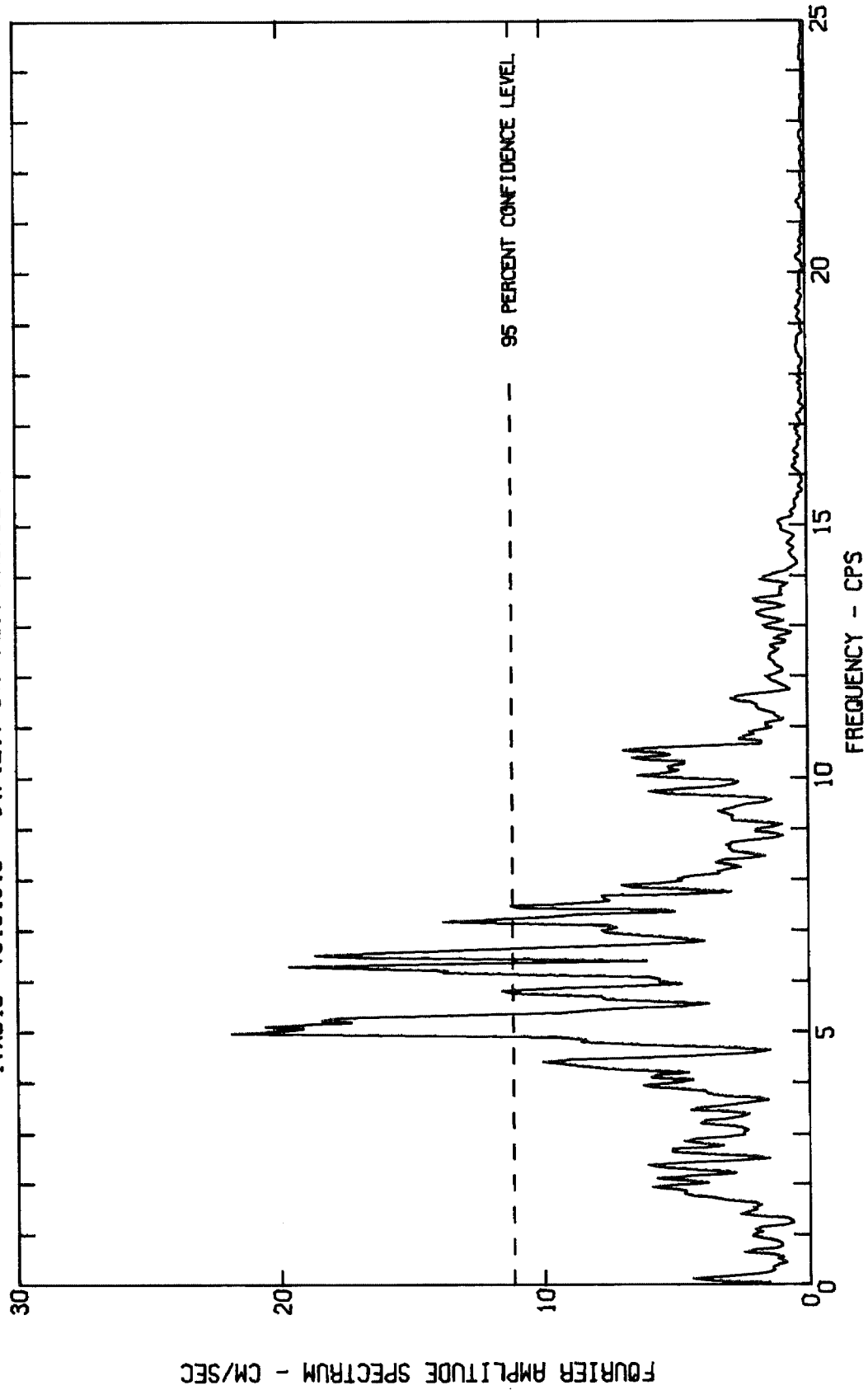
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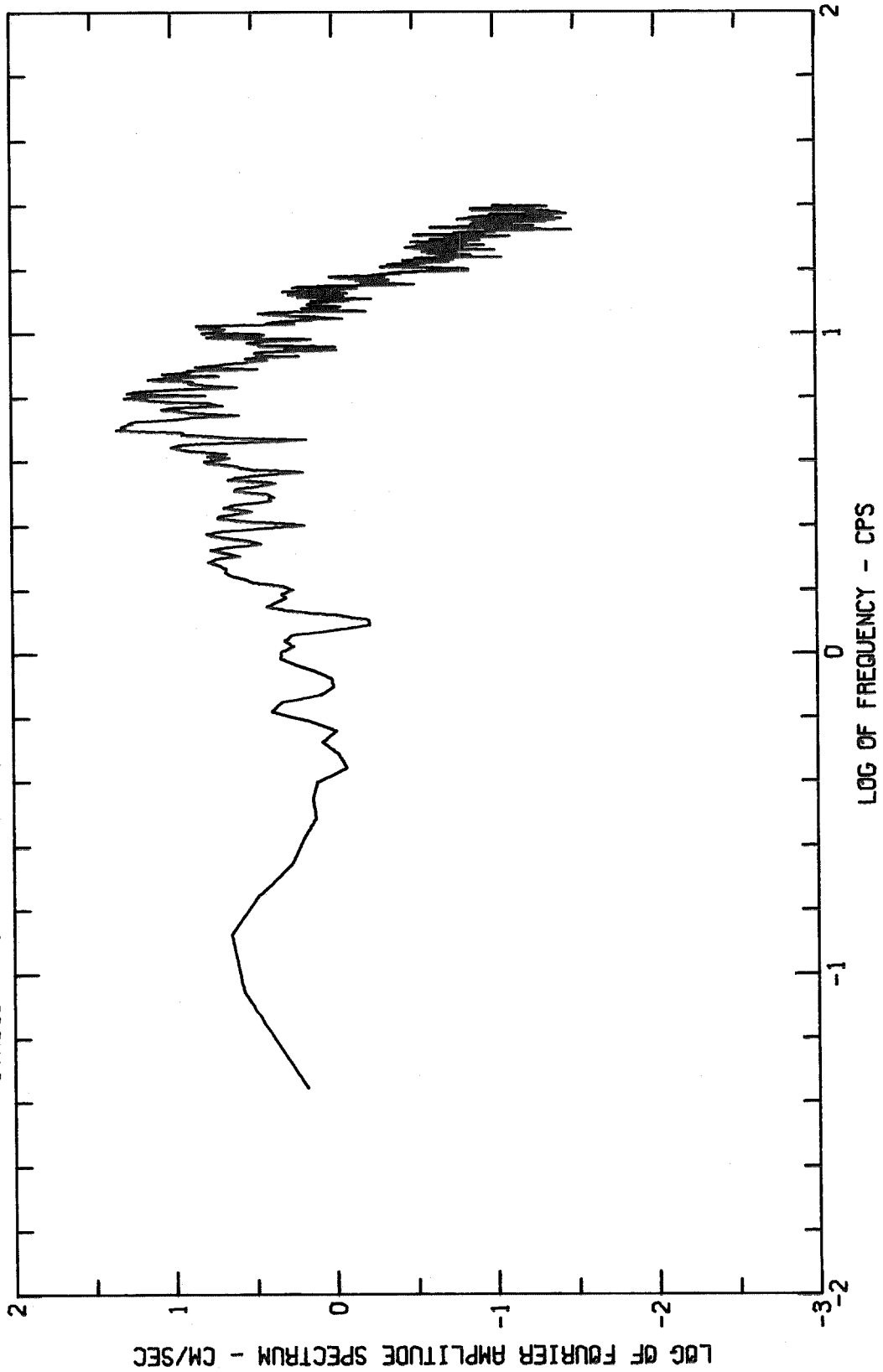
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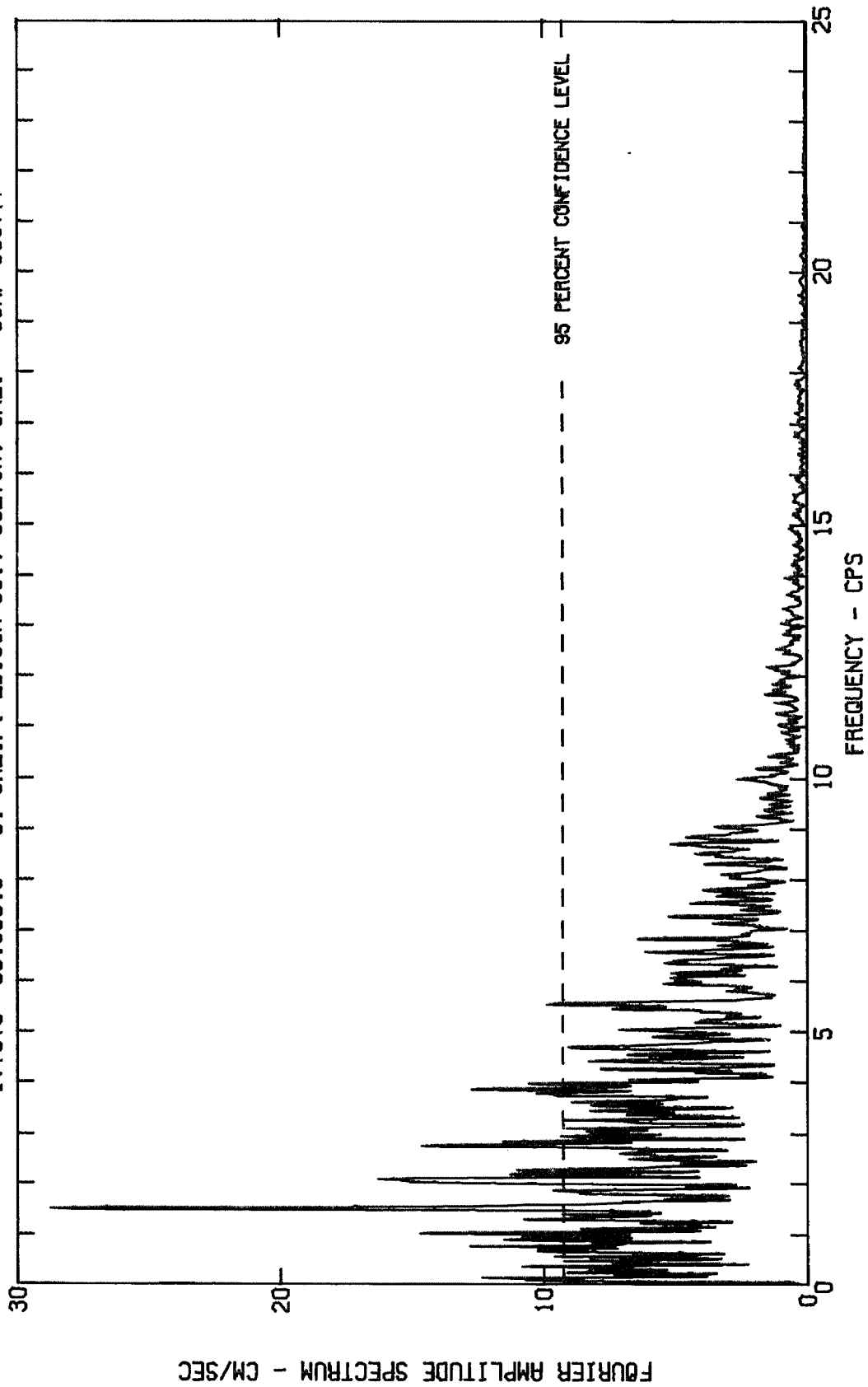
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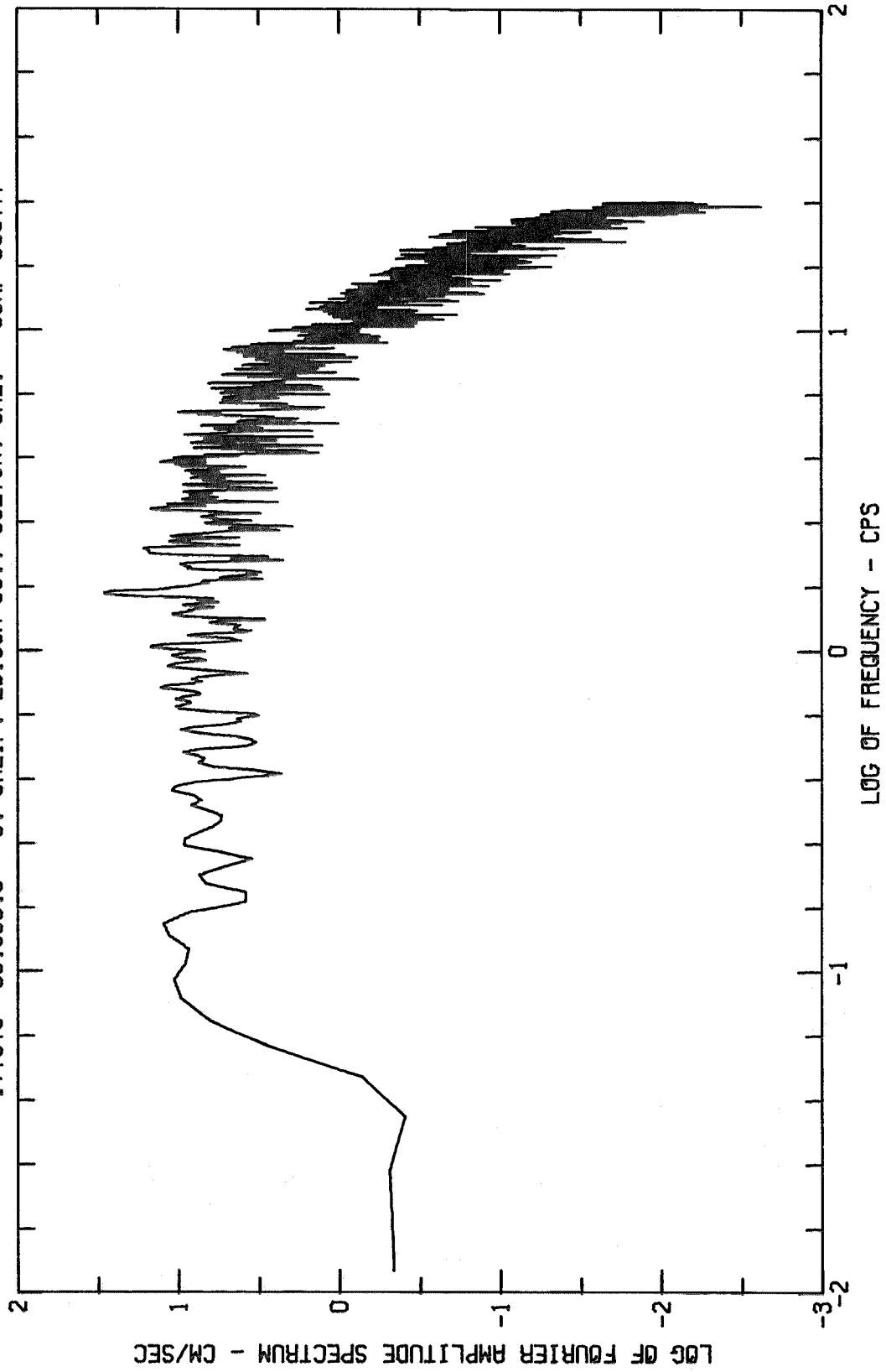
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LYTLE CREEK EARTHQUAKE SEP 12, 1970 - 0630 PST
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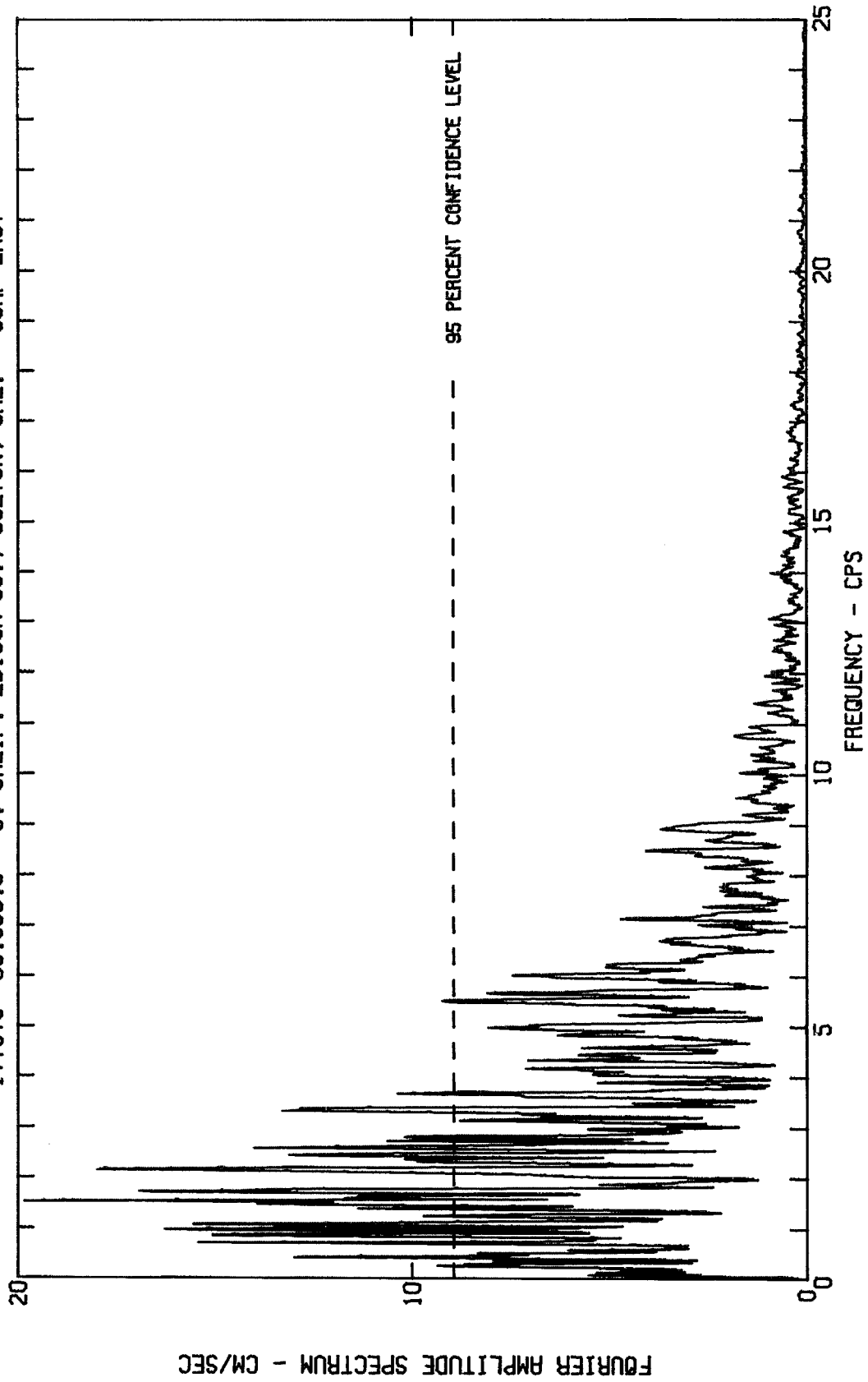
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORREGO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
IVY370 68.099.0 S. CALIF. EDISON CO., COLTON, CAL. COMP SOUTH



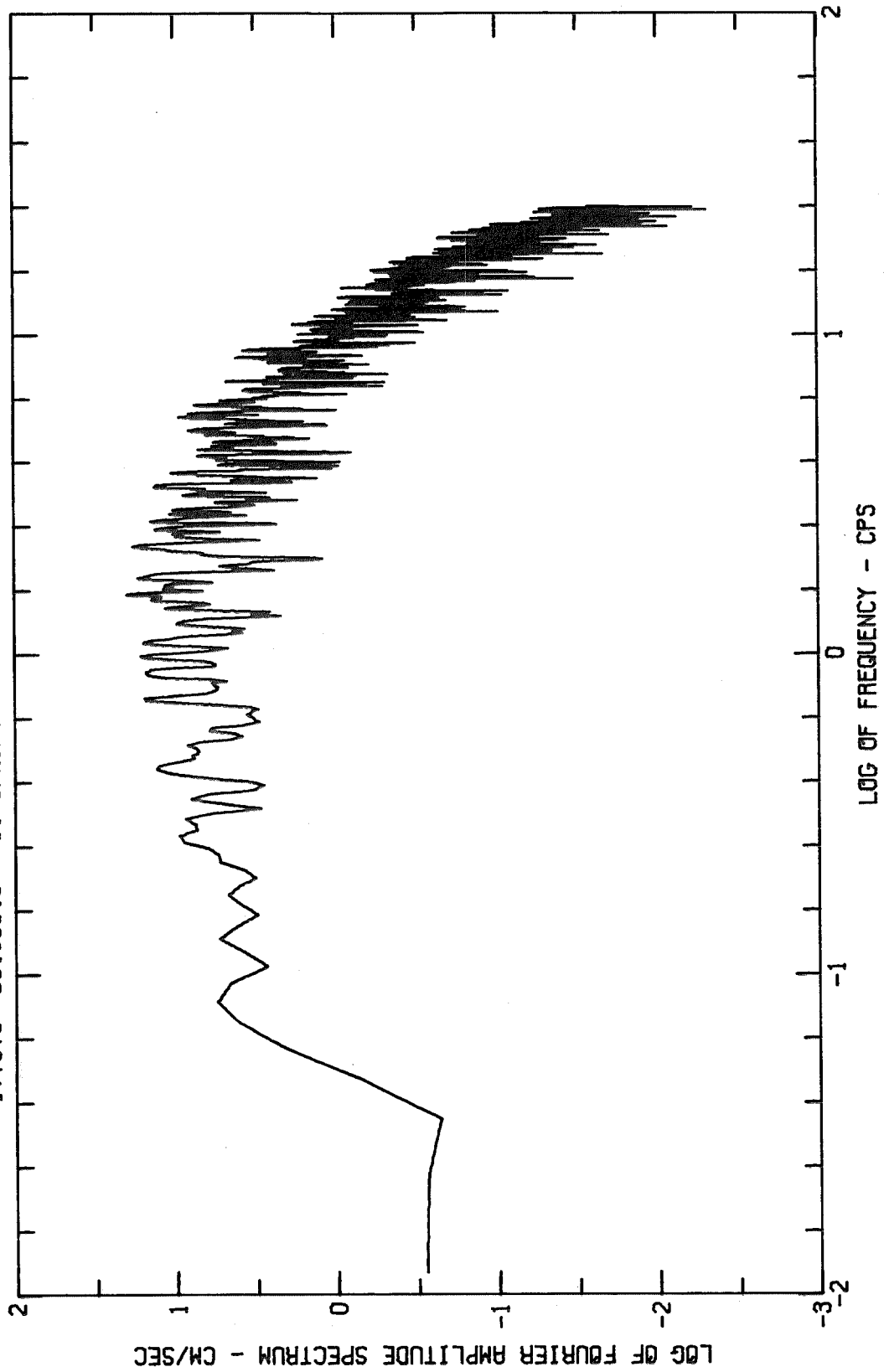
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORRERO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
IVY370 68.099.0 S. CALIF. EDISON CO., COLTON, CAL. COMP SOUTH



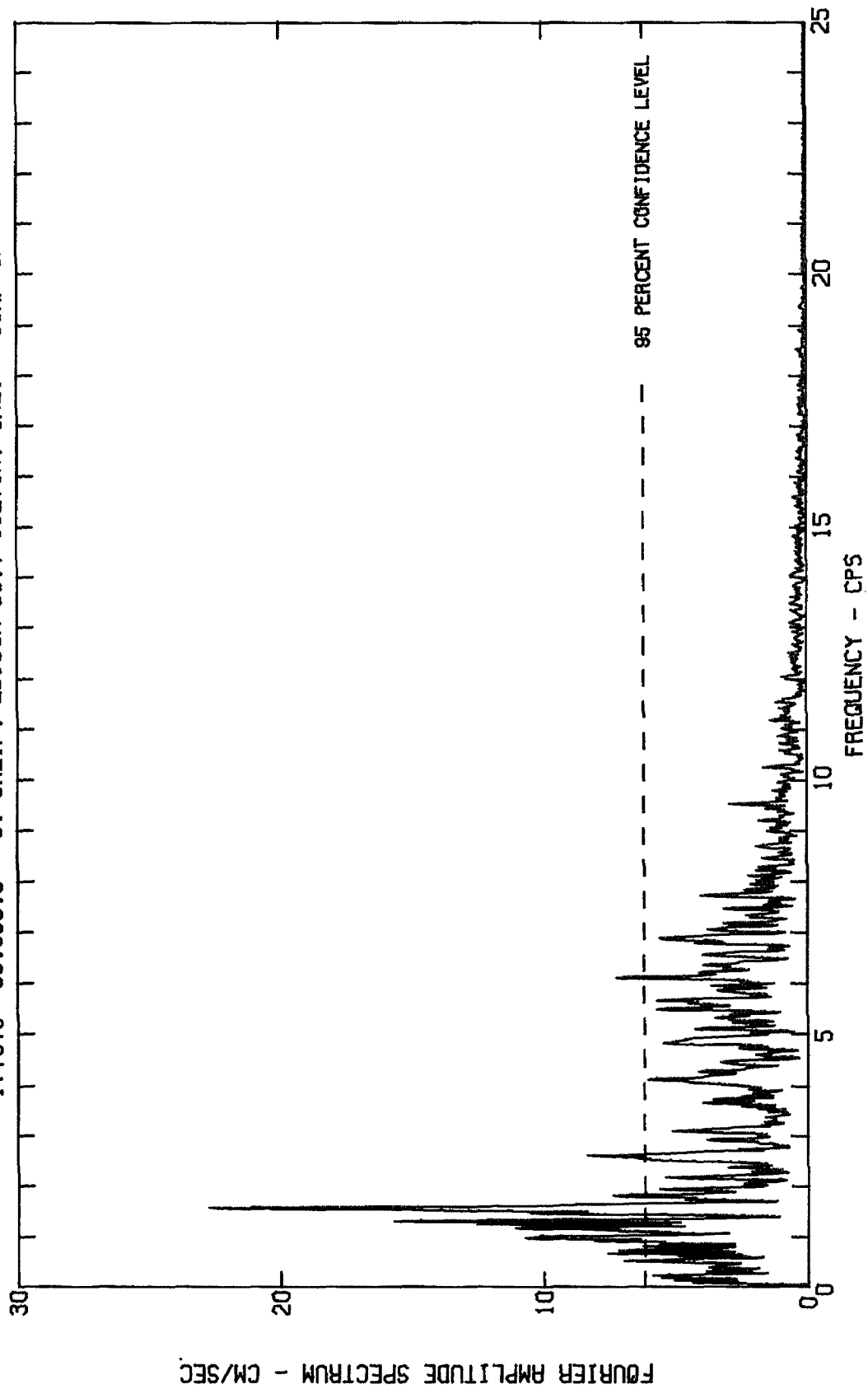
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
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IVY370 68.099.0 S. CALIF. EDISON CO., COLTON, CAL. COMP EAST



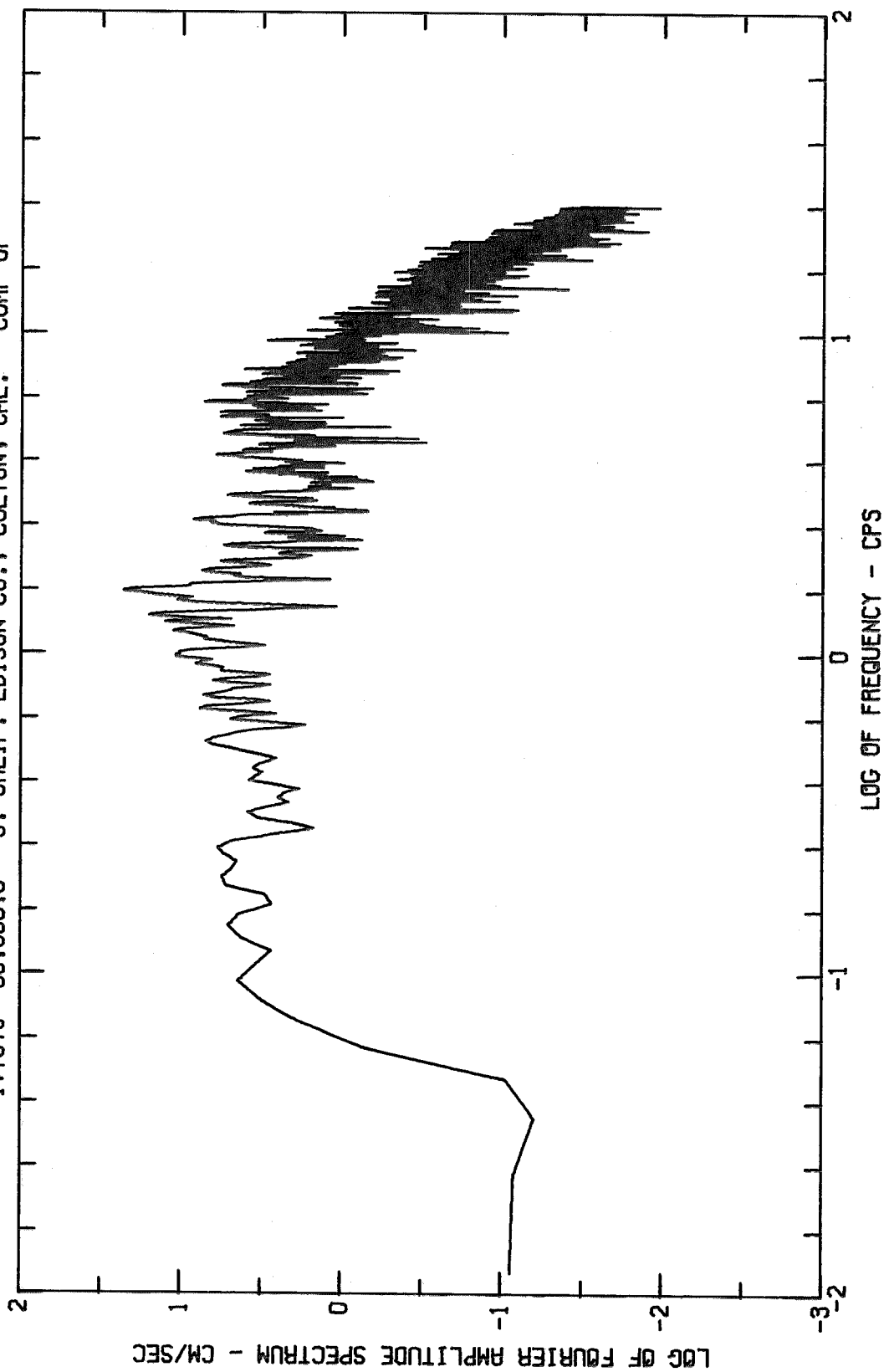
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORRERO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
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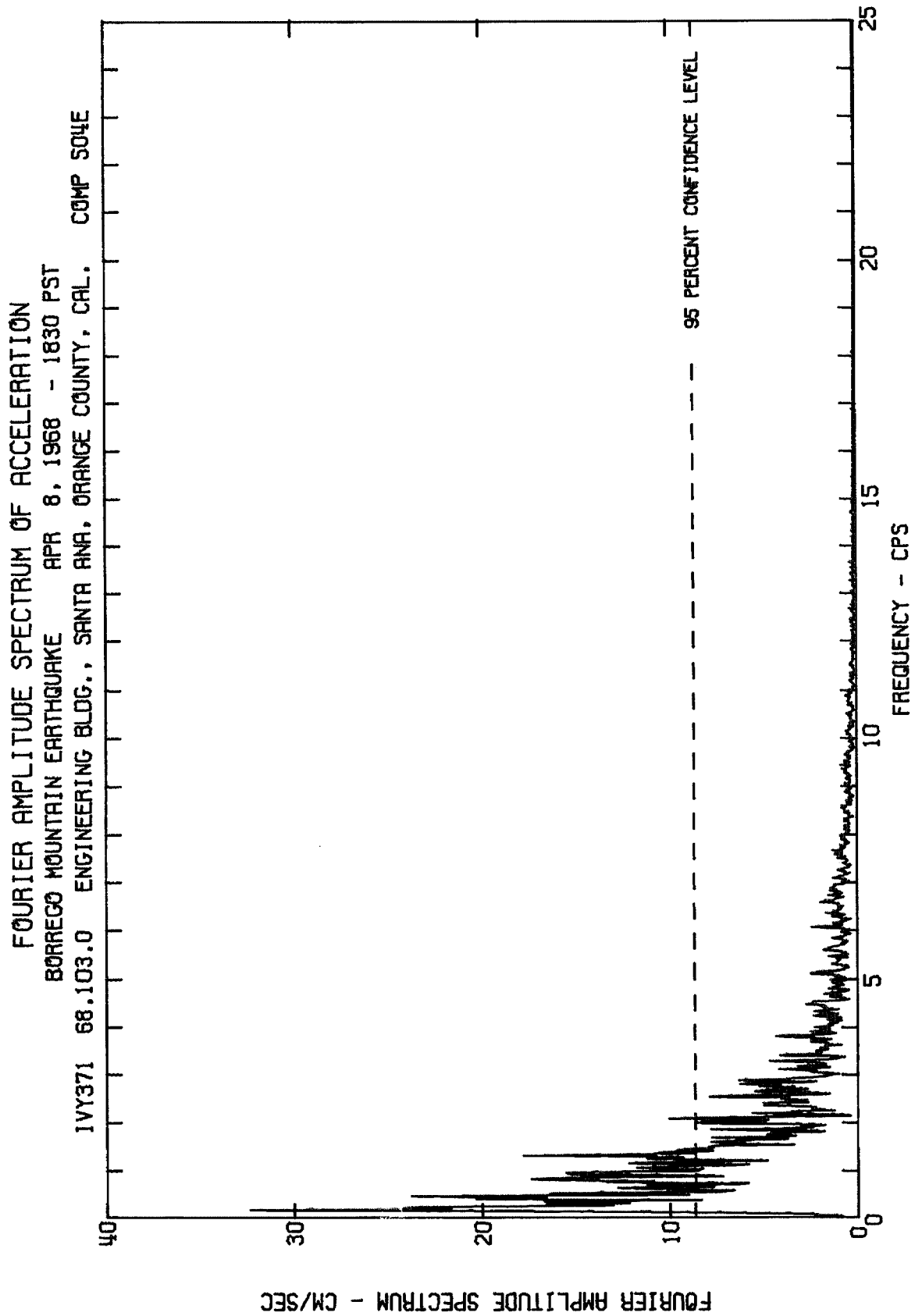


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORREGO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
IVY370 68.099.0 S. CALIF. EDISON CO., COLTON, CAL. COMP UP

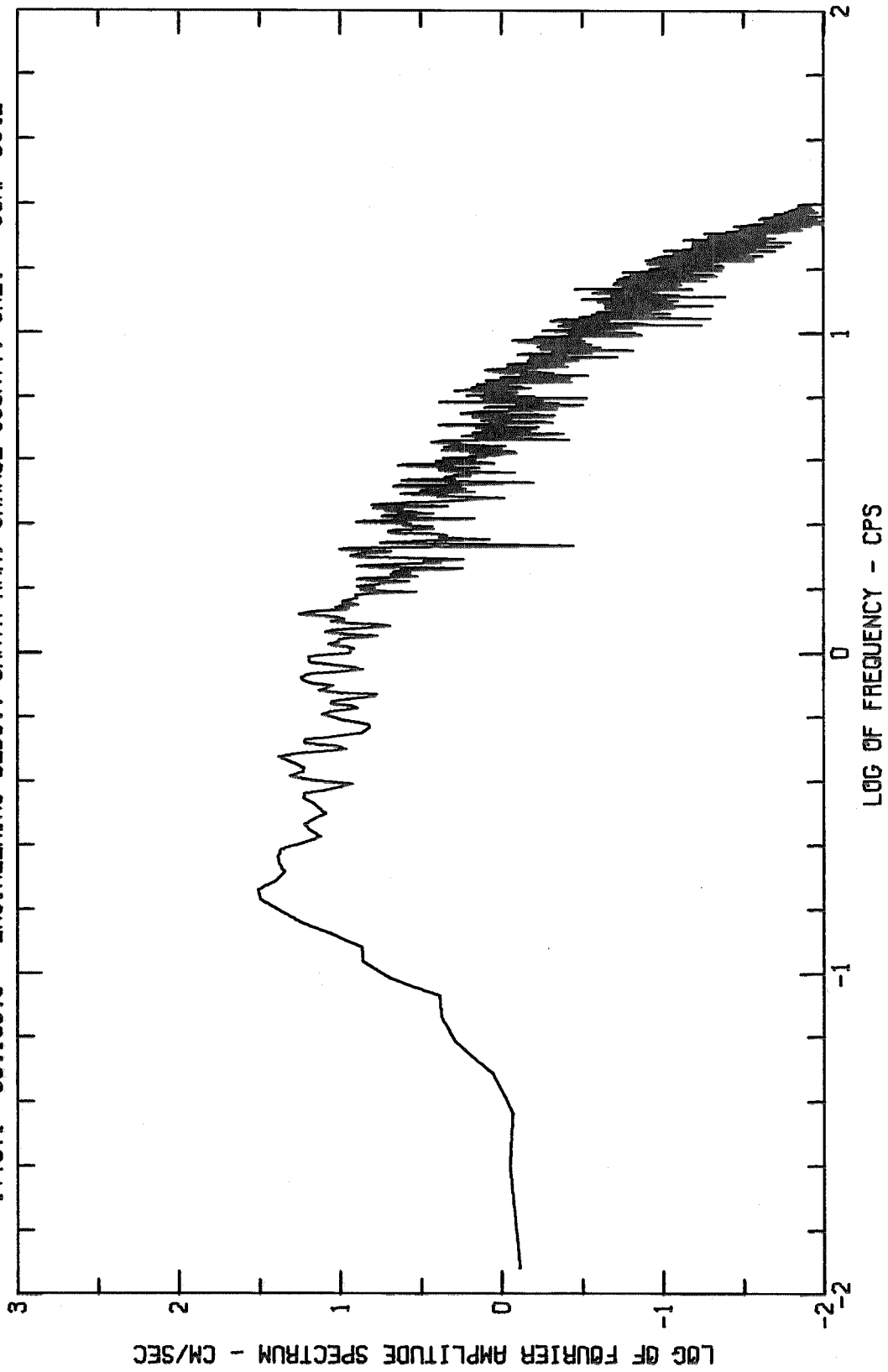


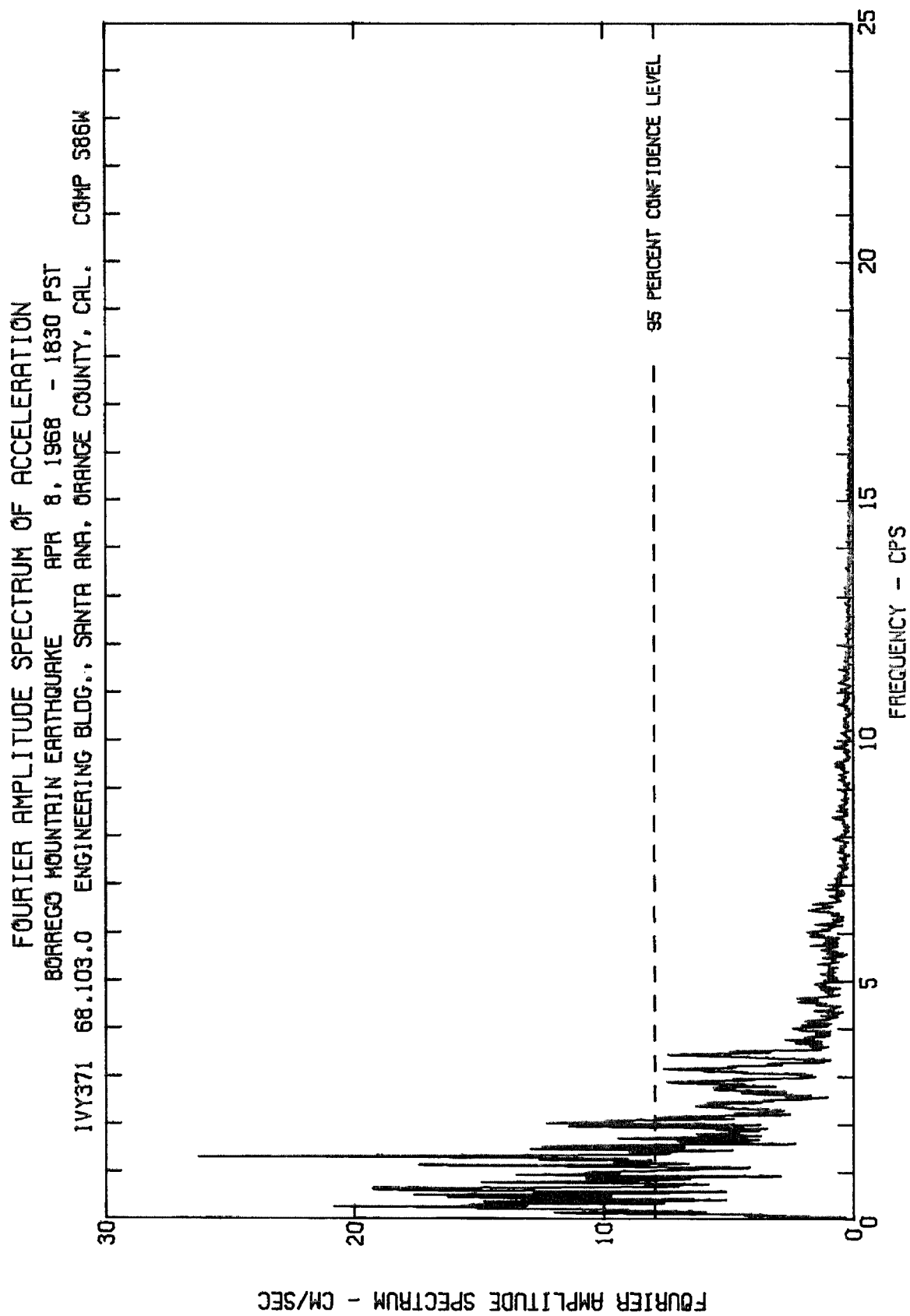
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IVY370 68.099.0 S. CALIF. EDISON CO., COLTON, CAL. COMP UP



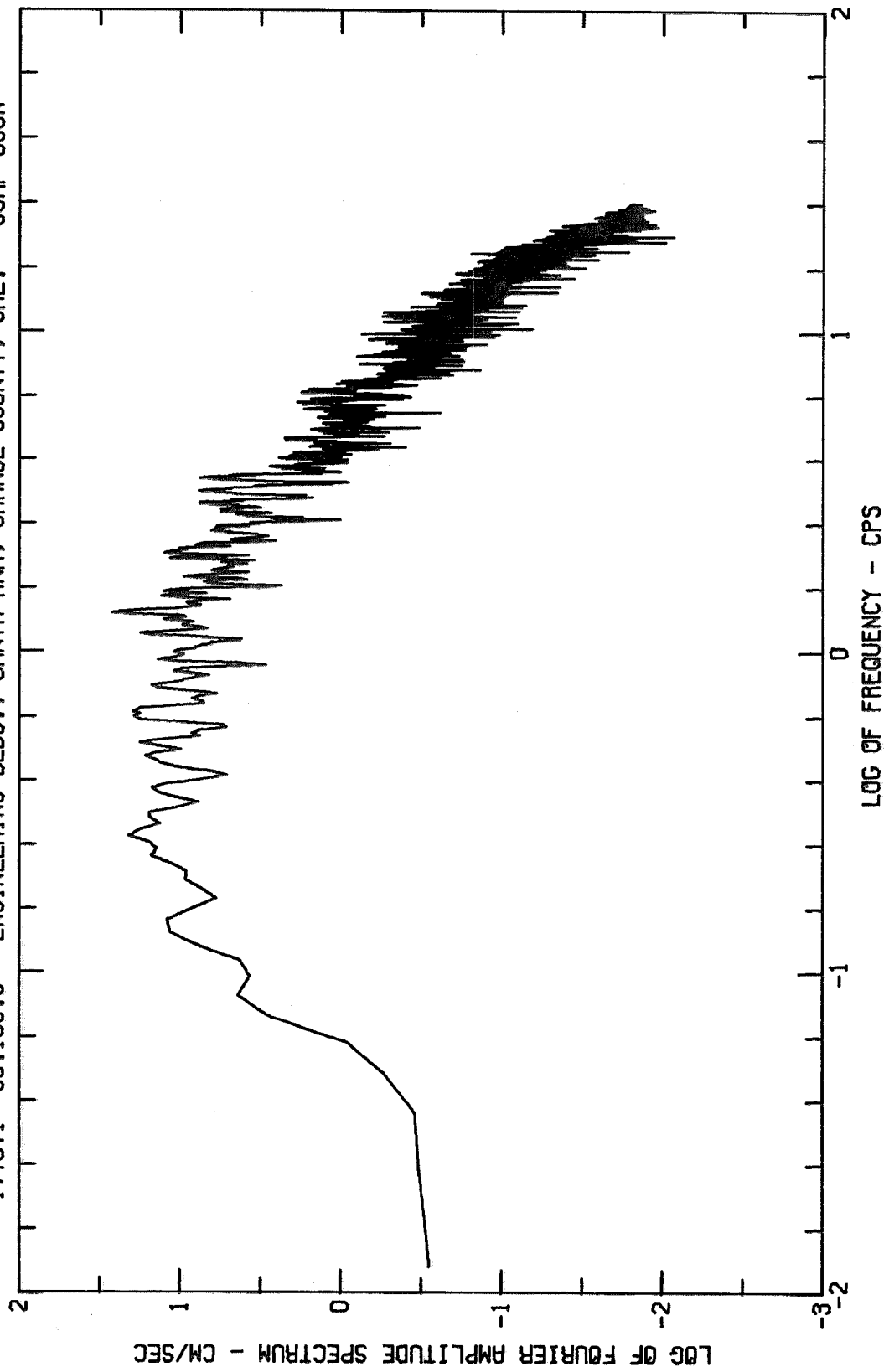


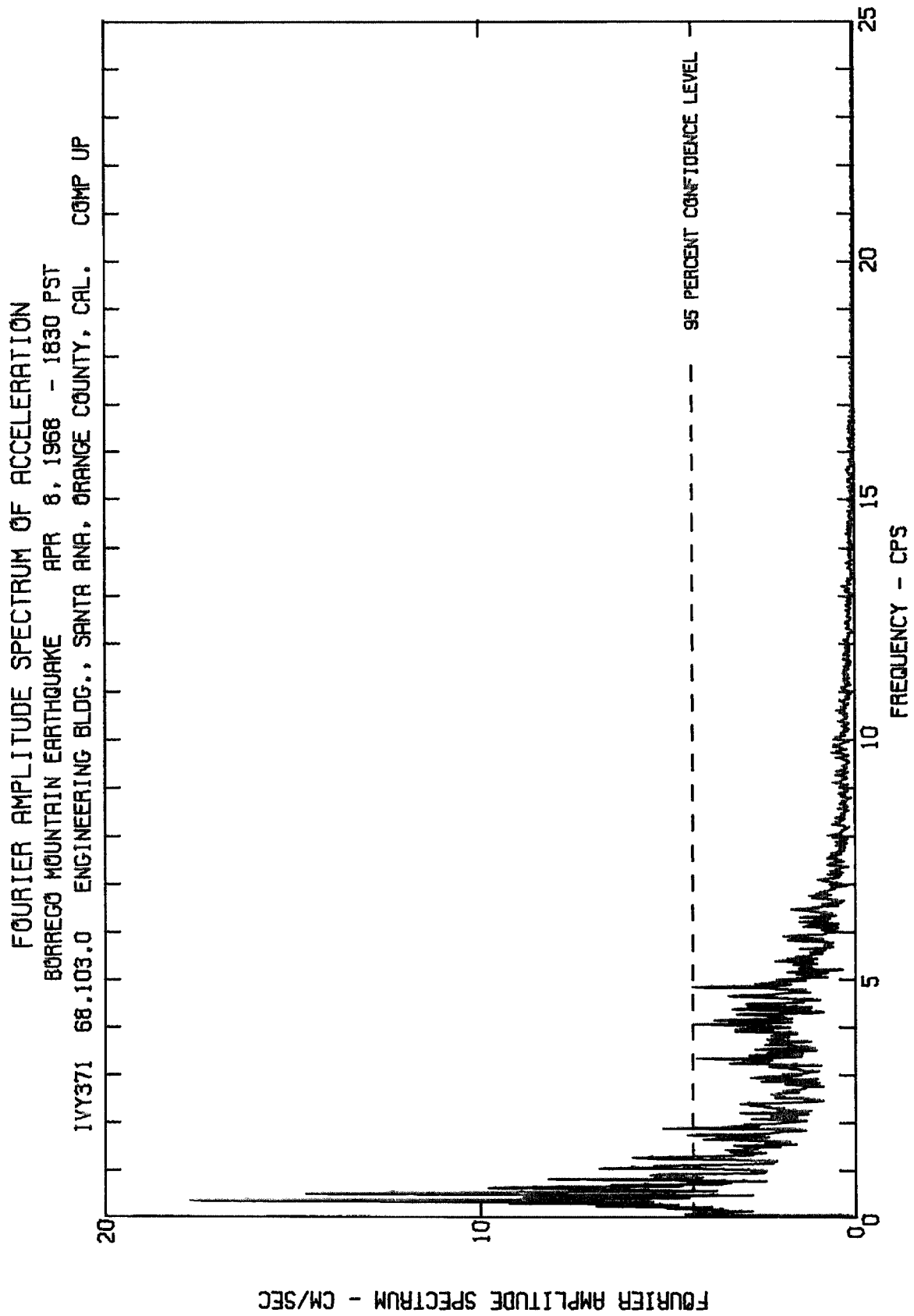
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORREGO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
1VY371 68.103.0 ENGINEERING BLDG., SANTA ANA, ORANGE COUNTY, CAL. COMP SO4E

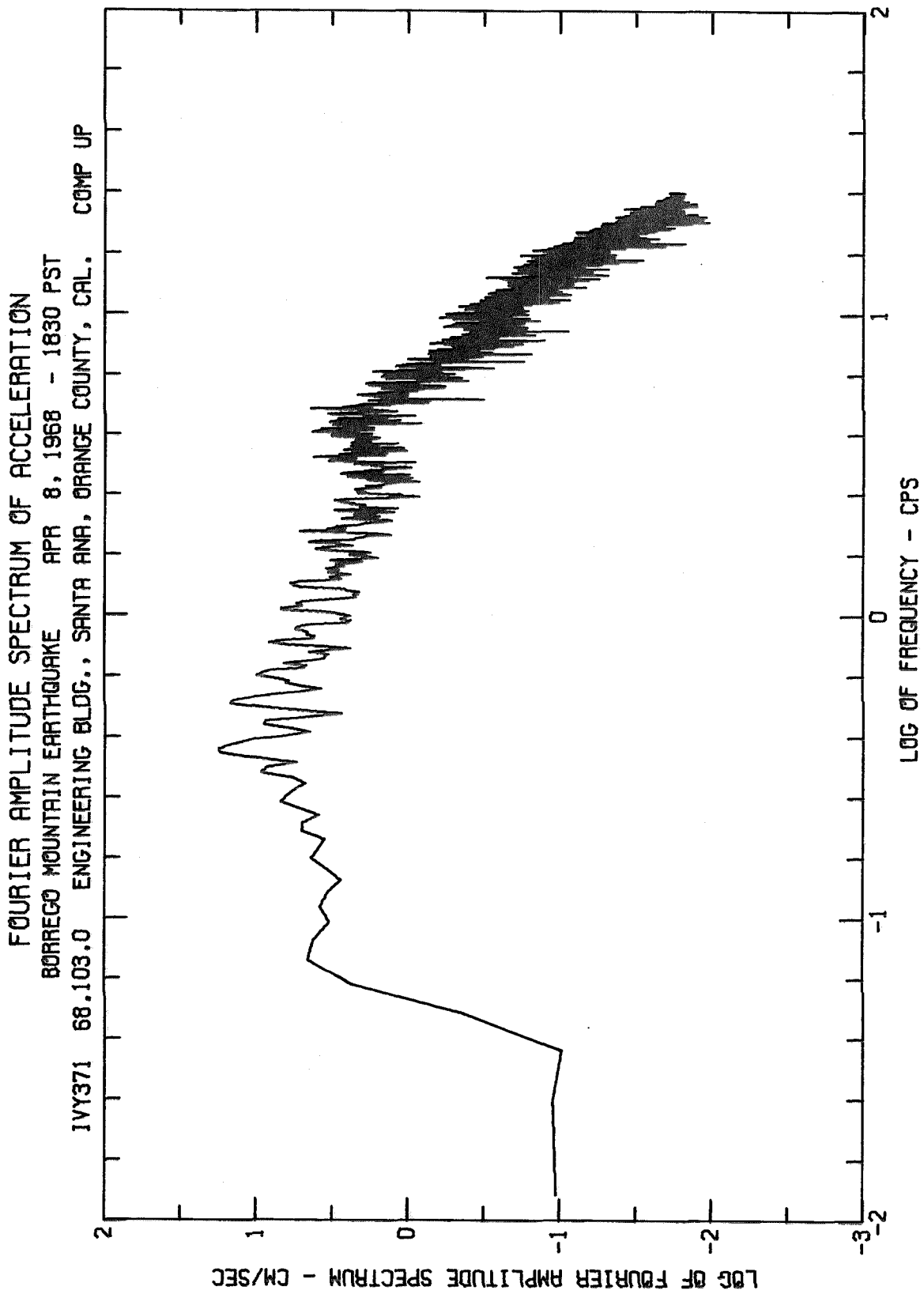




FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORRERO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
1VY371 68.103.0 ENGINEERING BLDG., SANTA ANA, ORANGE COUNTY, CAL. COMP S86W



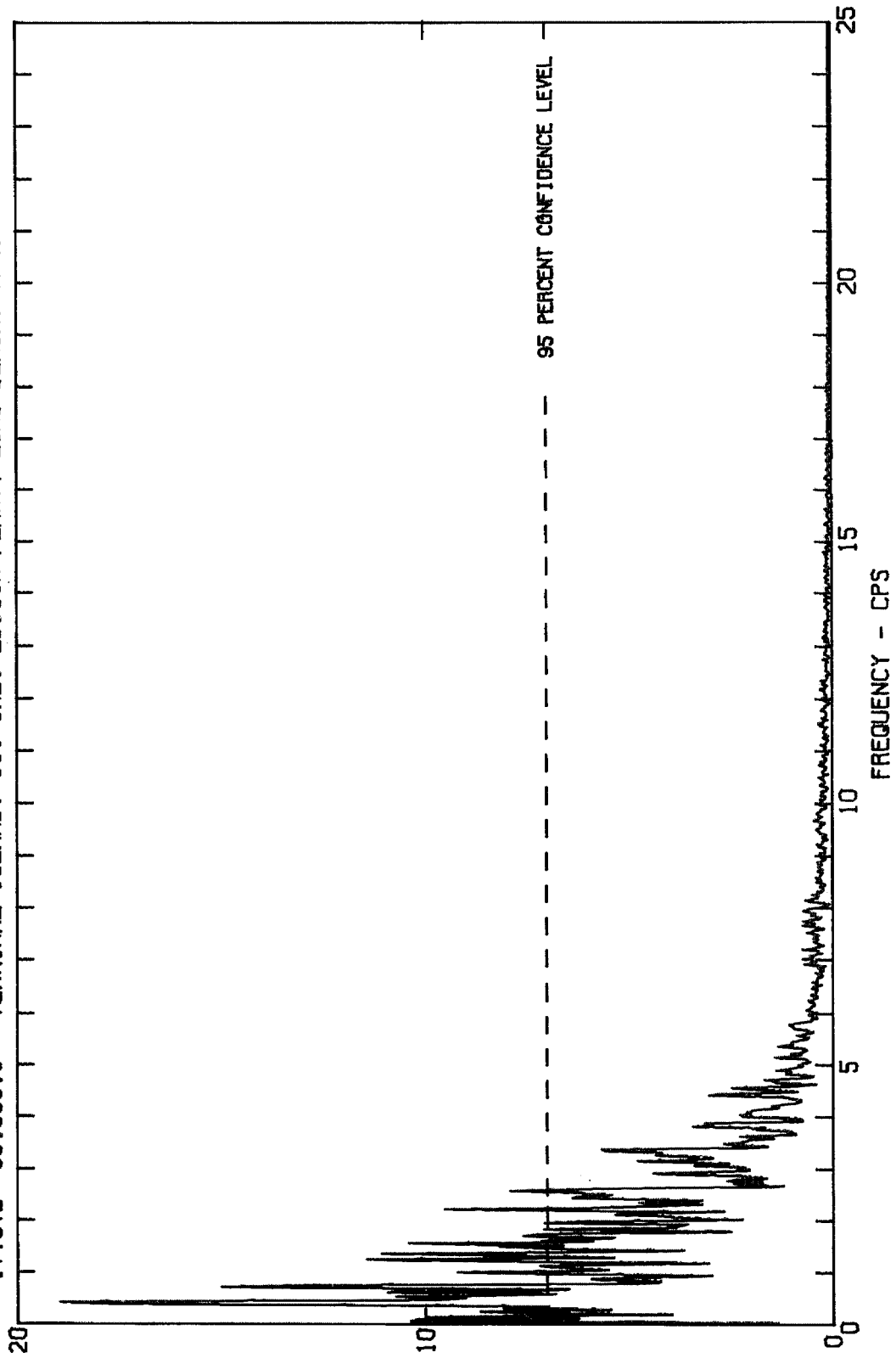


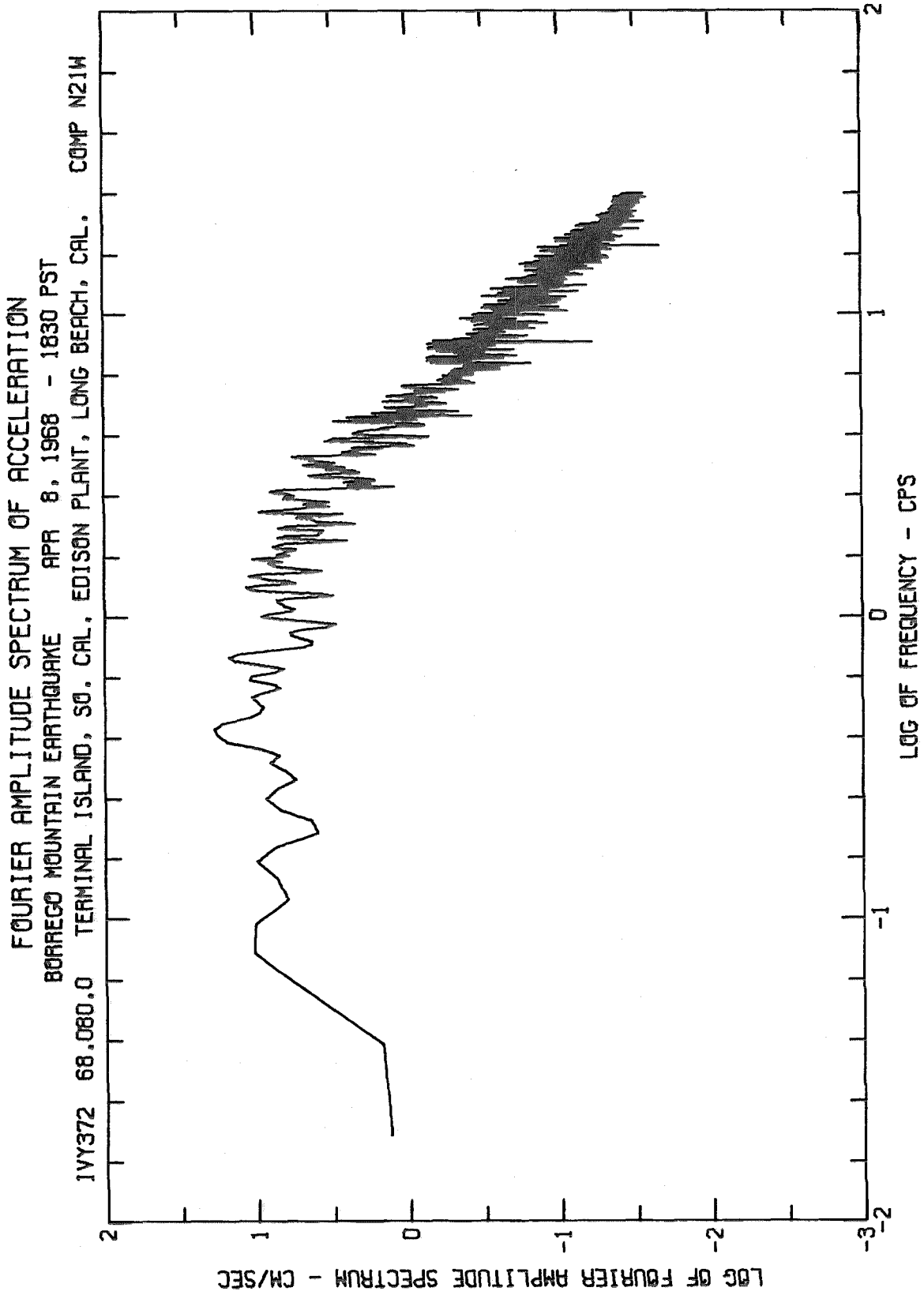


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION

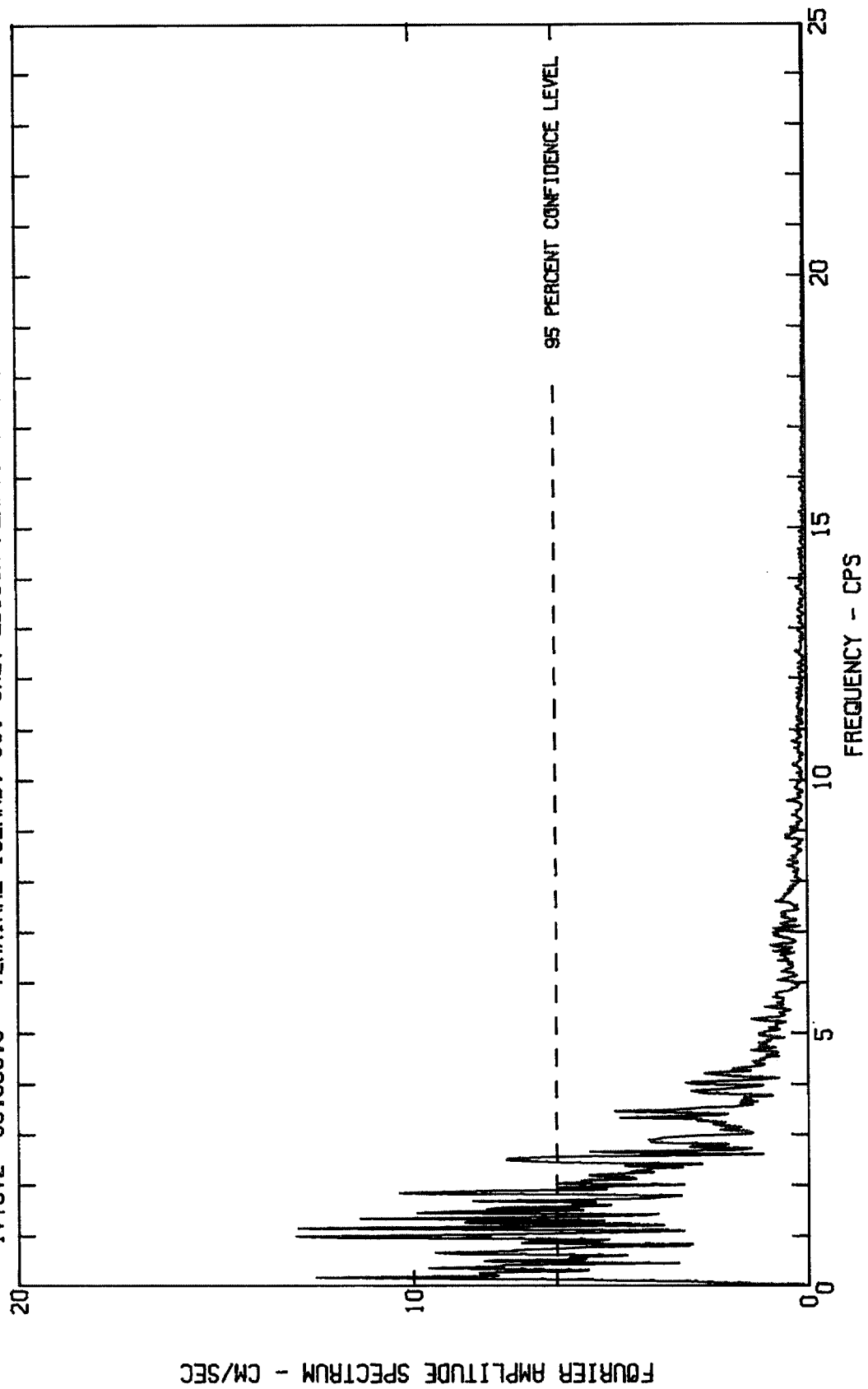
BORREGO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST

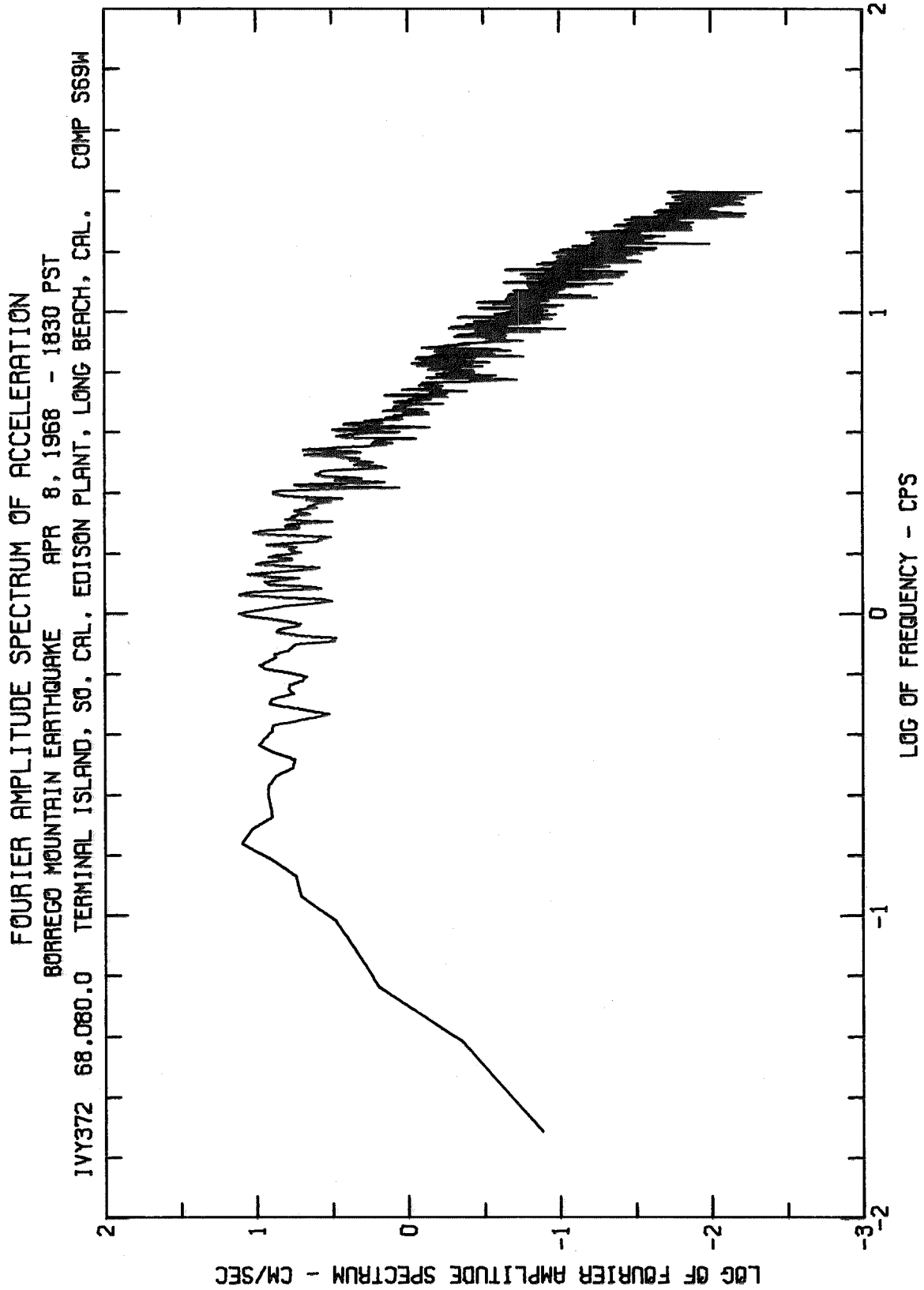
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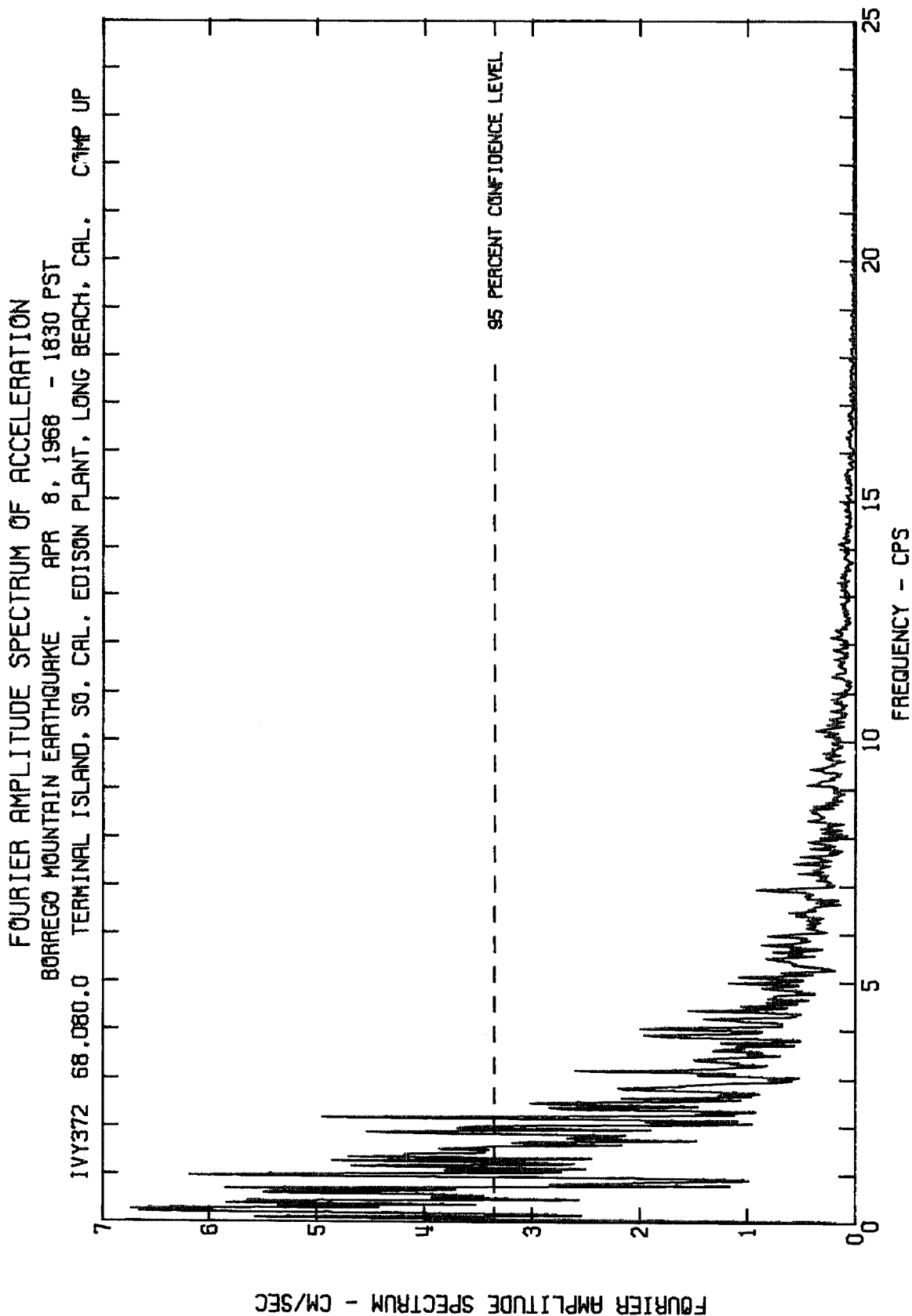




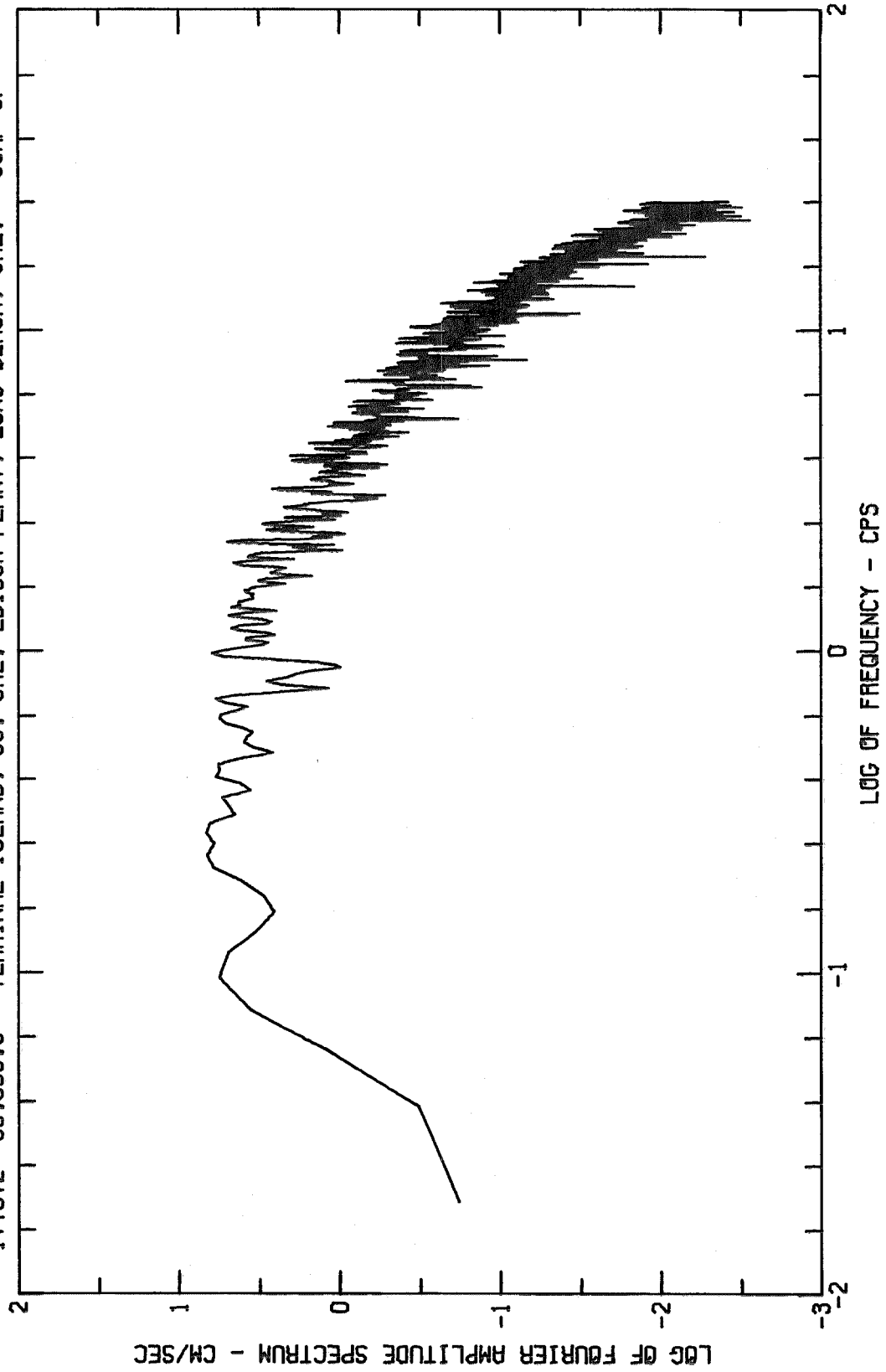
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORREGO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
1VY372 68.080.0 TERMINAL ISLAND, SO. CAL. EDISON PLANT, LONG BEACH, CAL. COMP 569W



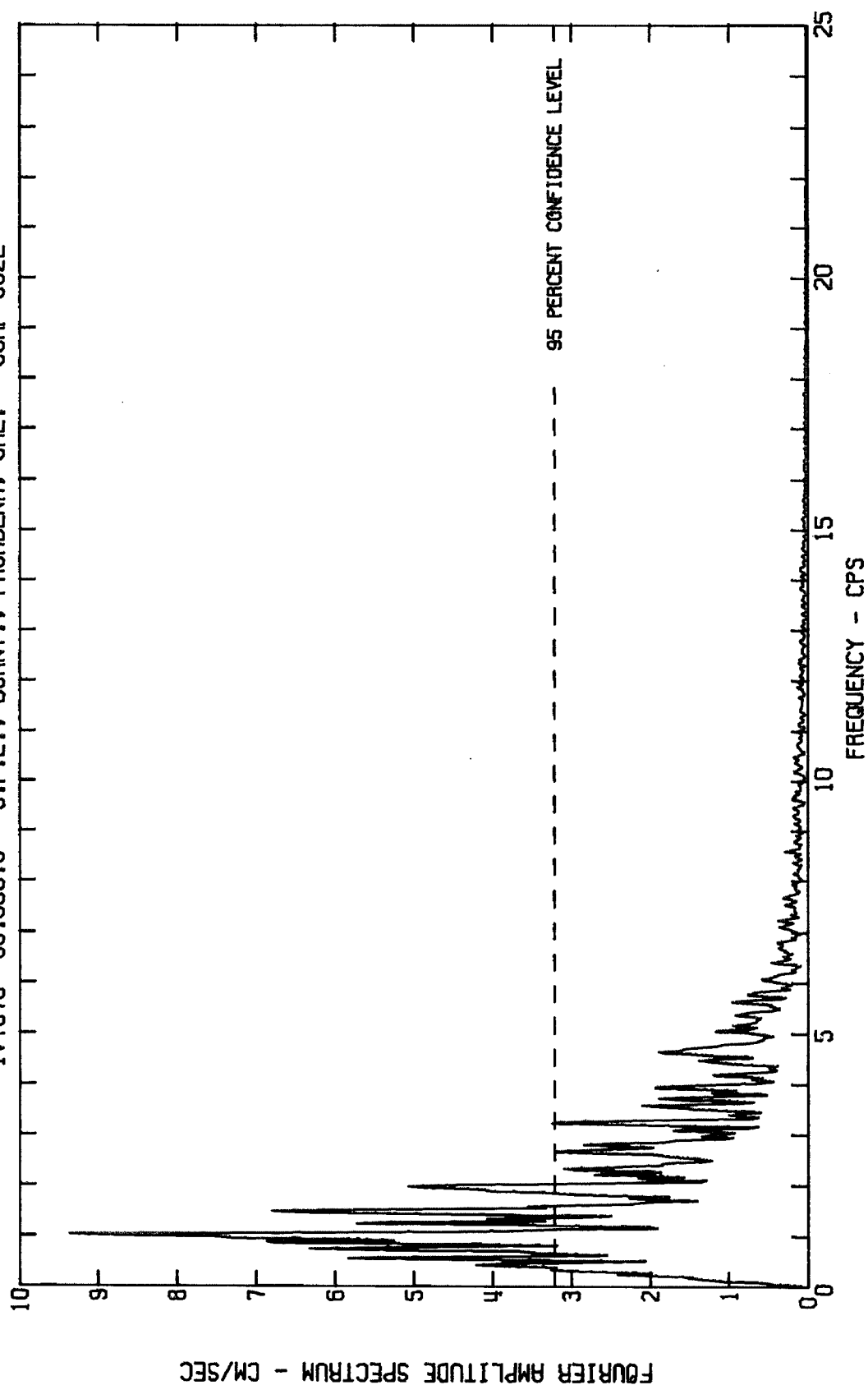




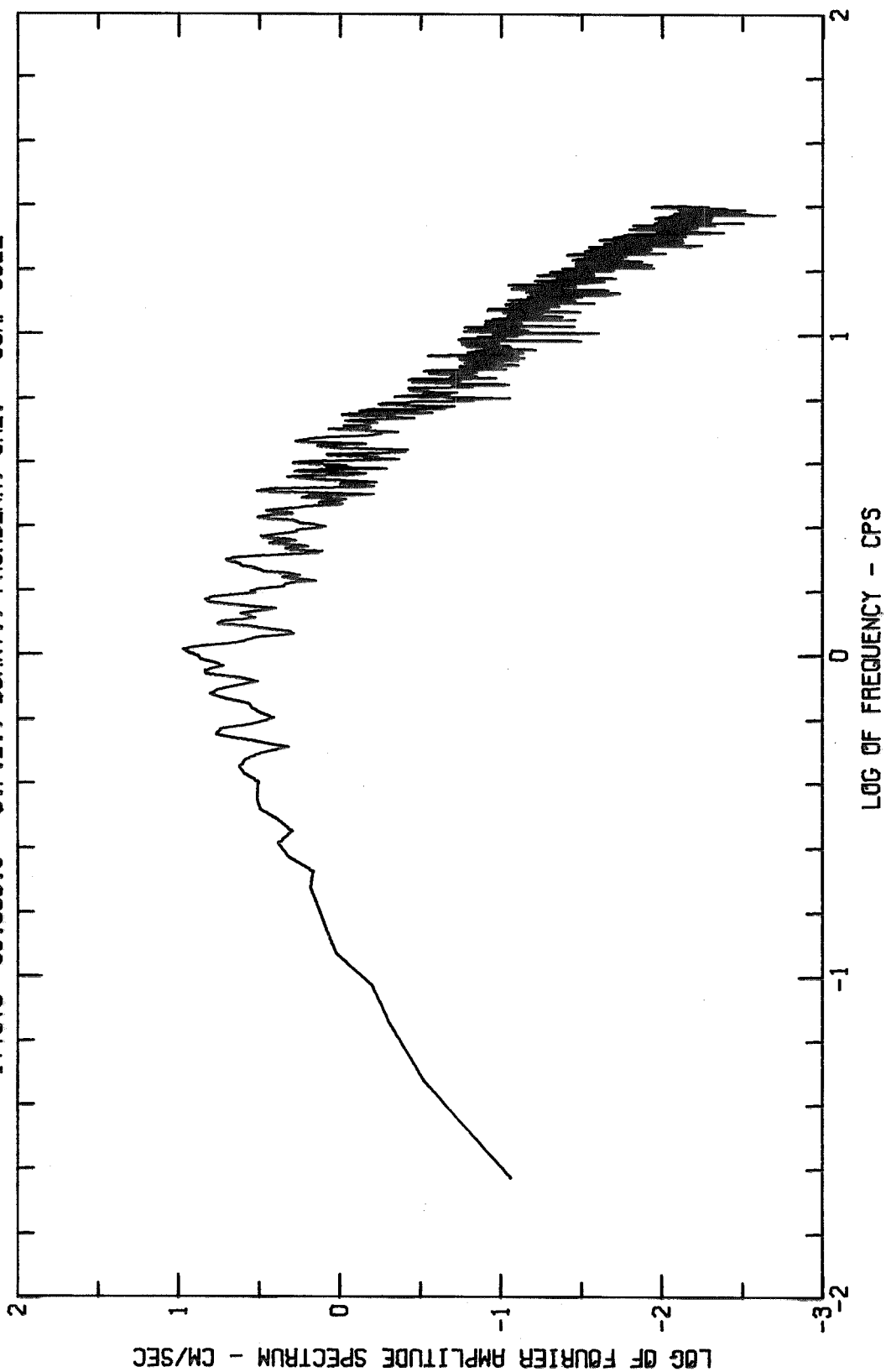
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORRERO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
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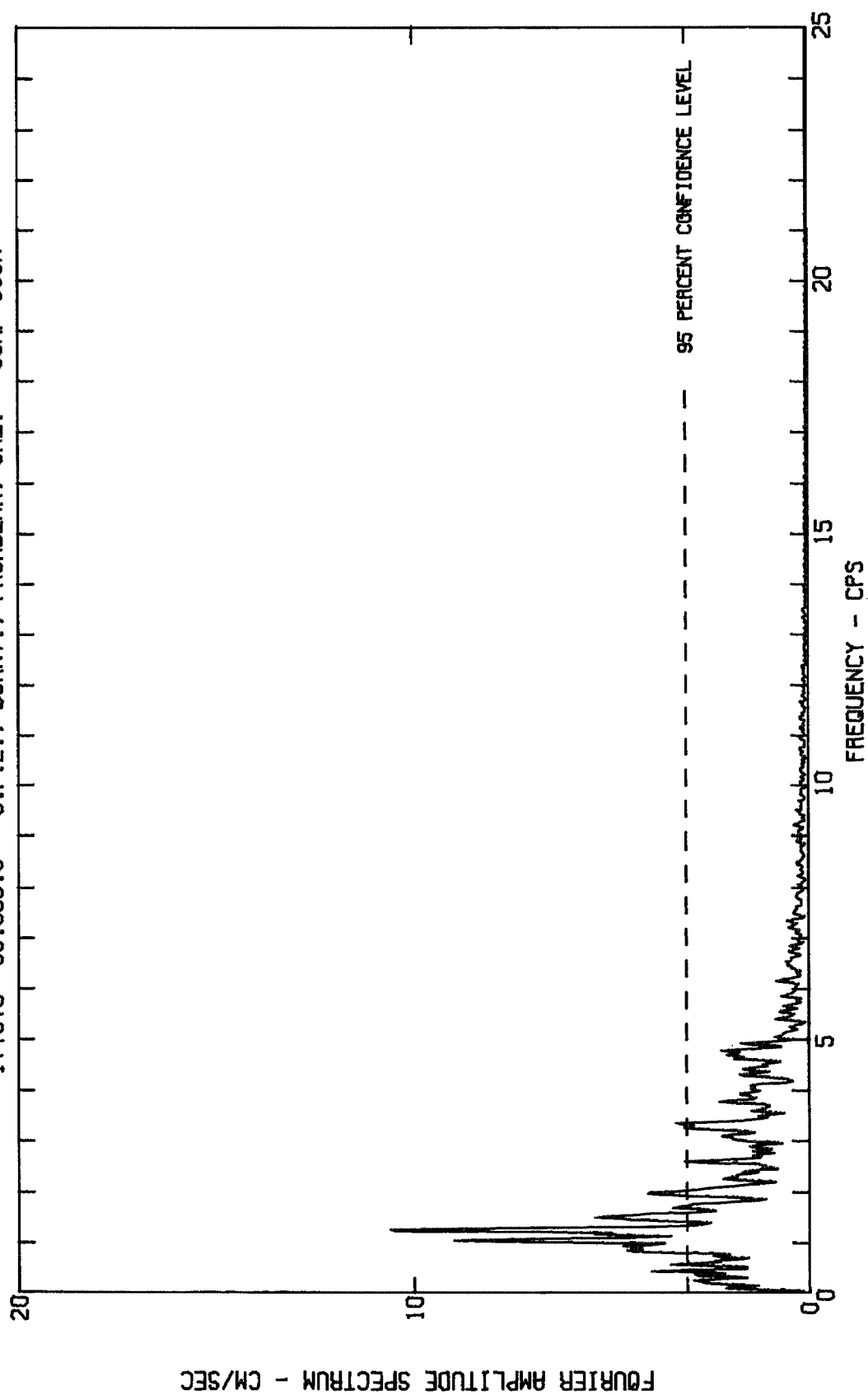
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORRERO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
IVY373 68.089.0 J.P.L., BSMNT., PASADENA, CAL. COMP S82E



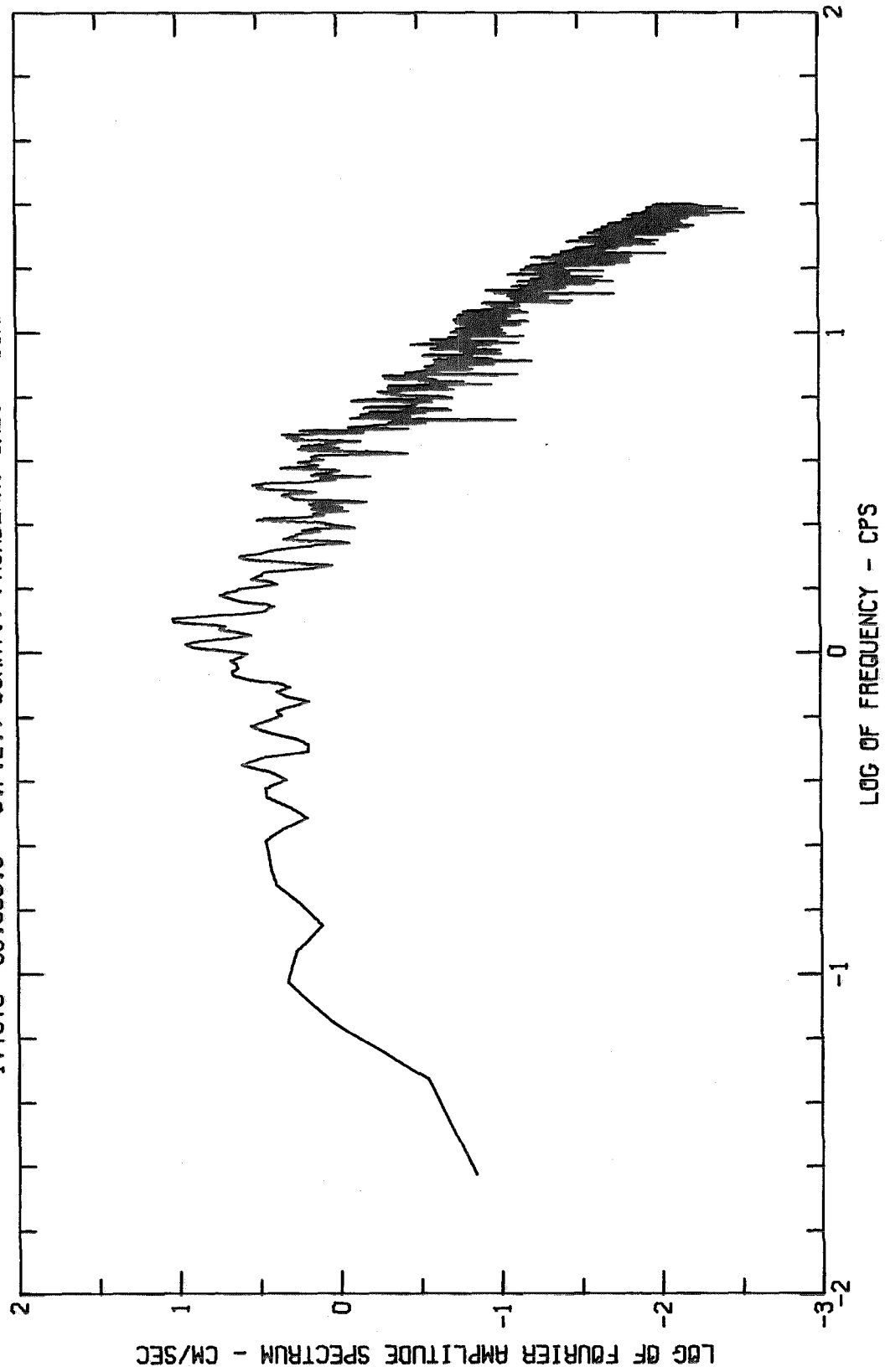
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IVY373 68.089.0 J.P.L., BSMNT., PASADENA, CAL. COMP S82E



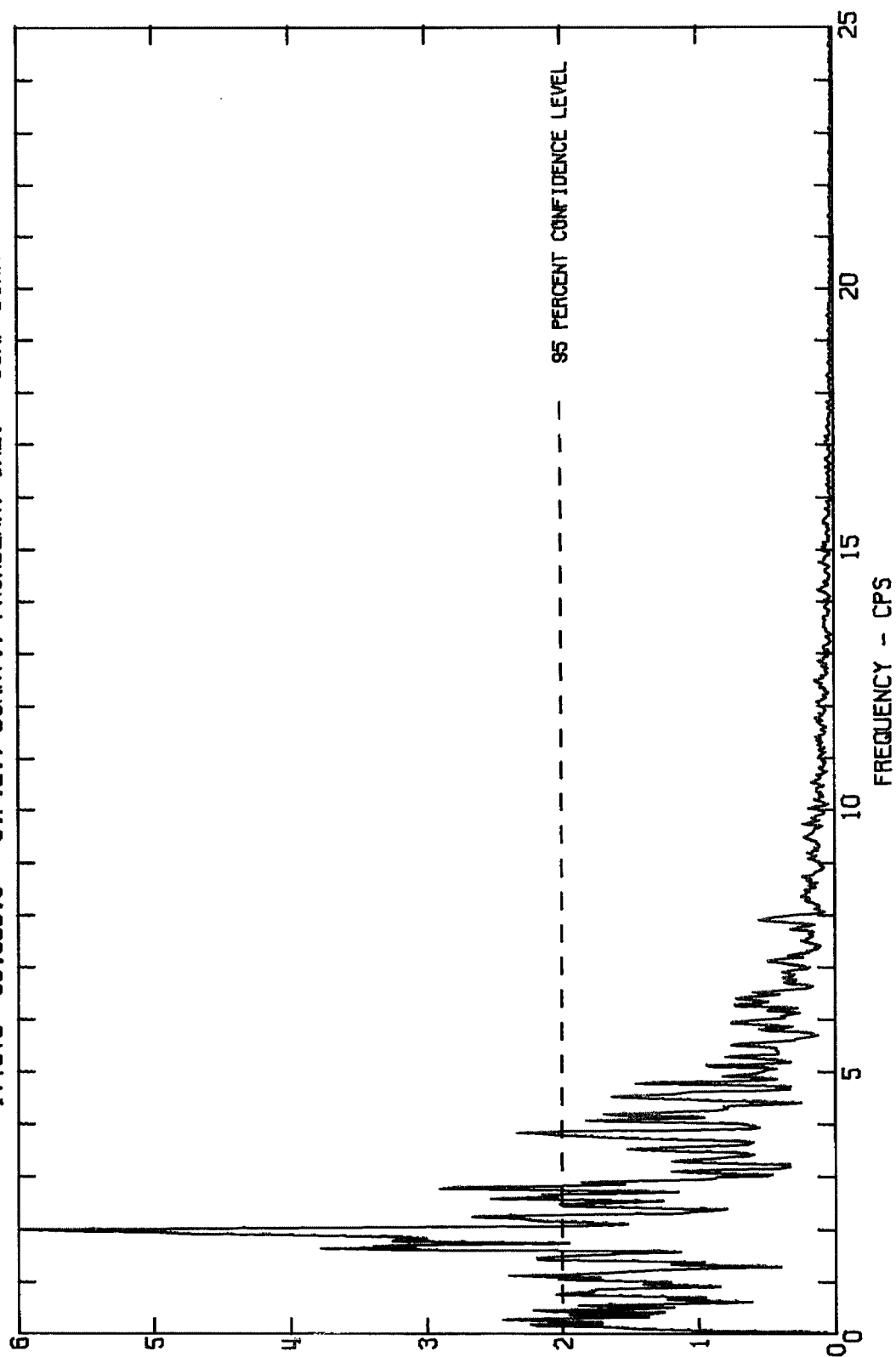
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BORREGO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
IVY373 68.089.0 J.P.L., BSMT., PASADENA, CAL. COMP 508W



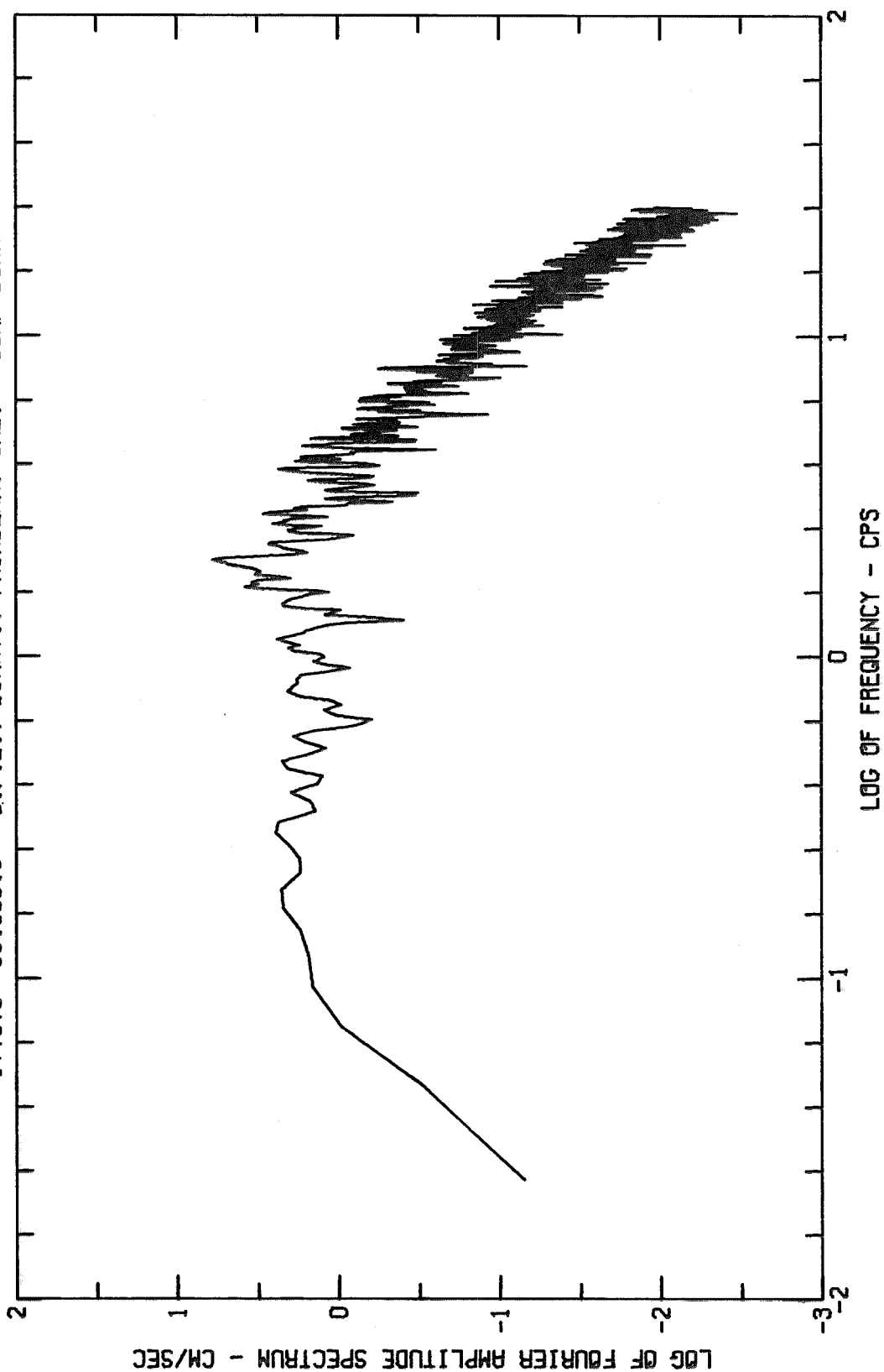
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BORRERO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
1VY373 68.089.0 J.P.L., BSMNT., PASADENA, CAL. COMP 508W



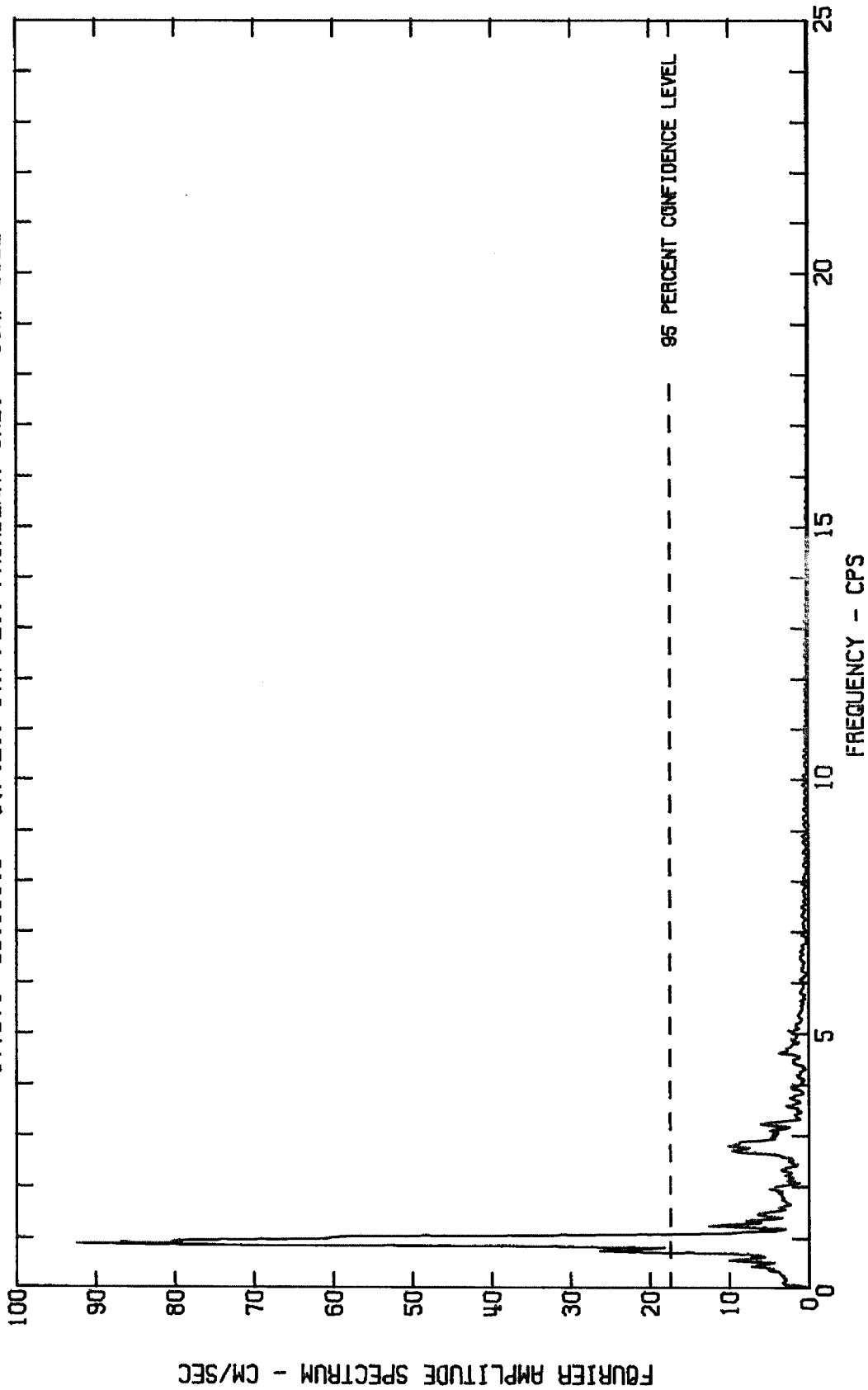
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
 BORREGO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
 IVY373 68.089.0 J.P.L., BSMNT., PASADENA, CAL. COMP DOWN



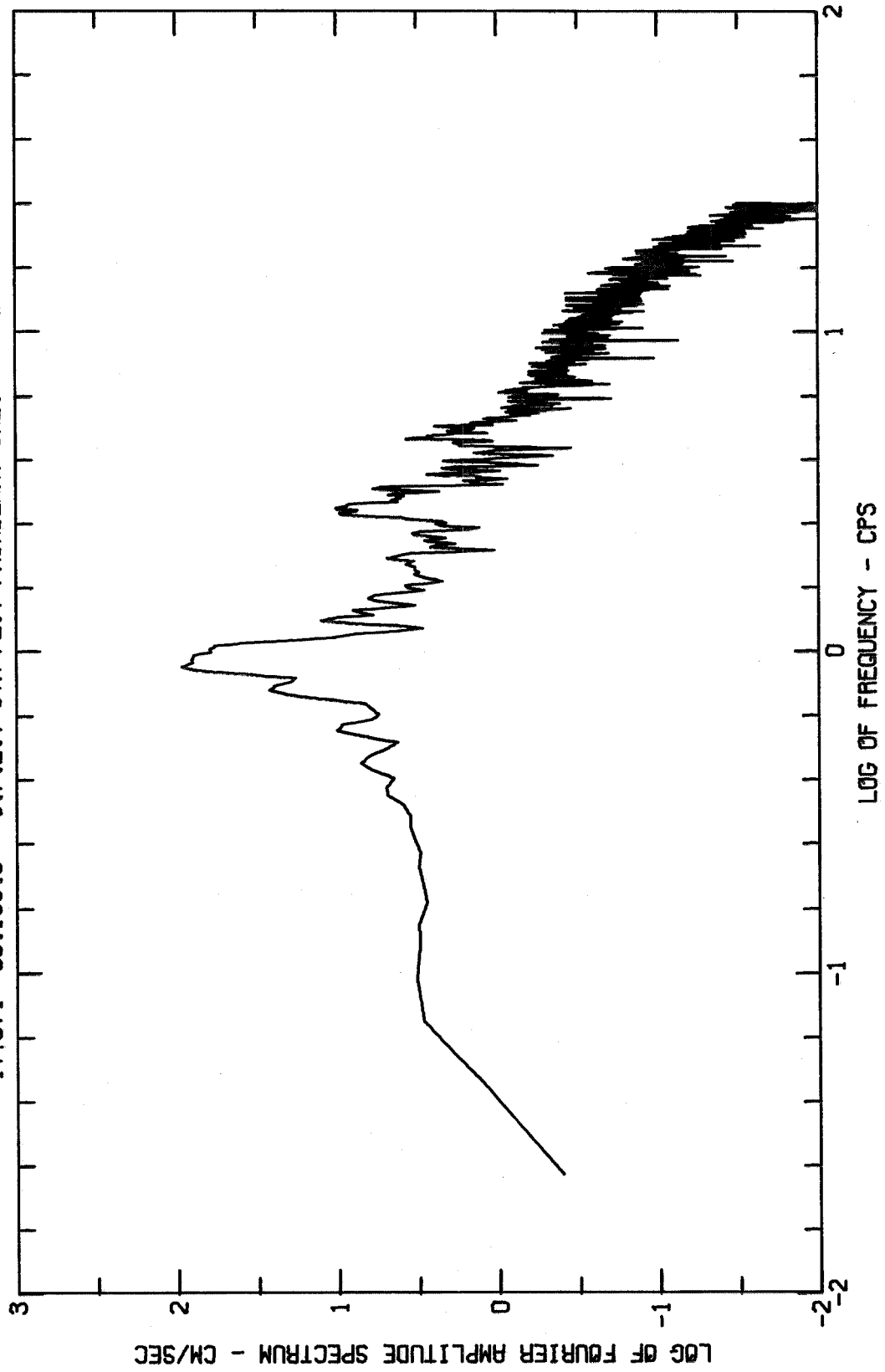
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
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IVY373 68.089.0 J.P.L., BSMNT., PASADENA, CAL. COMP DOWN



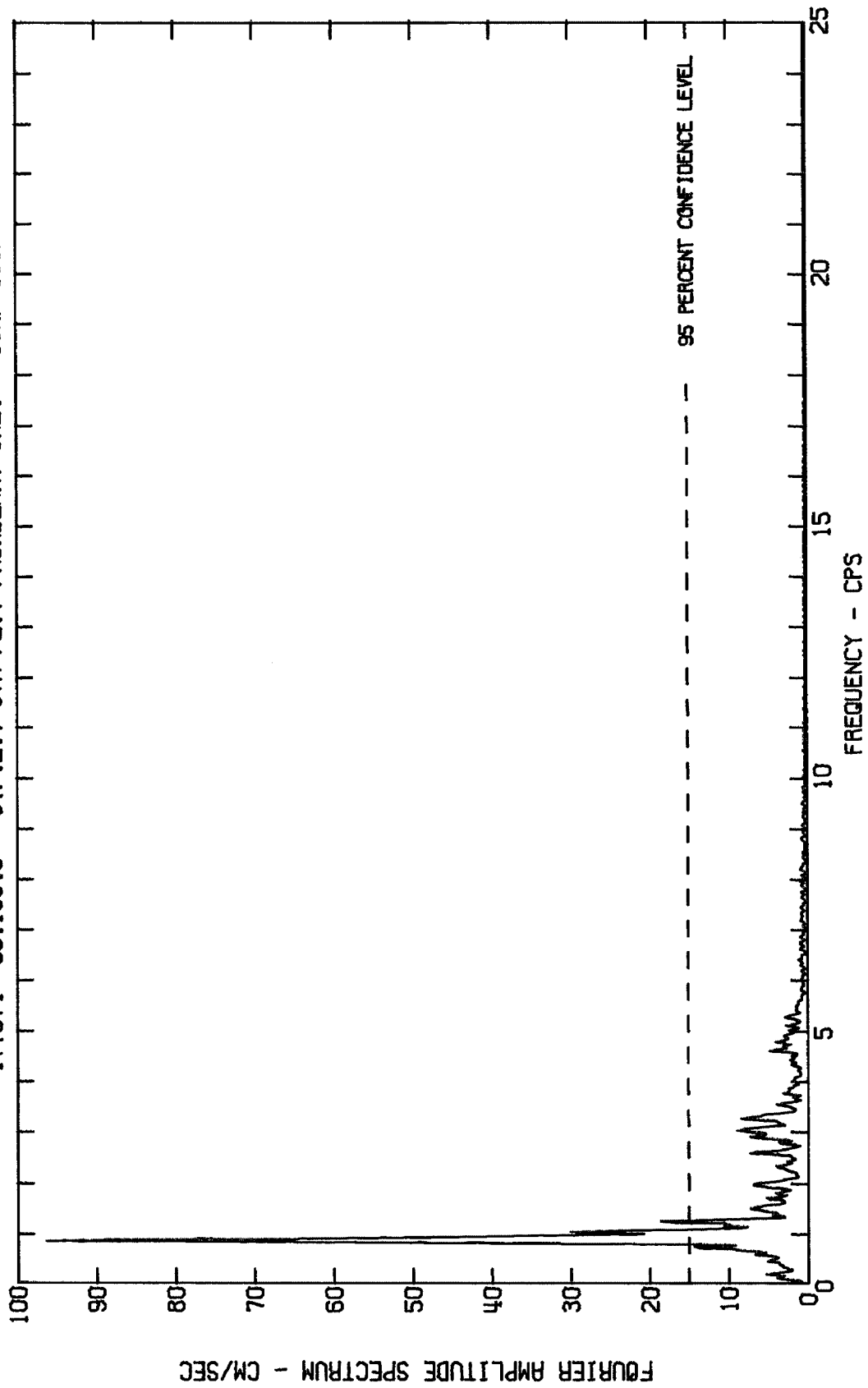
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORREGO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
IVY374 68.100.0 J.P.L., 9TH FL., PASADENA, CAL. COMP S82E



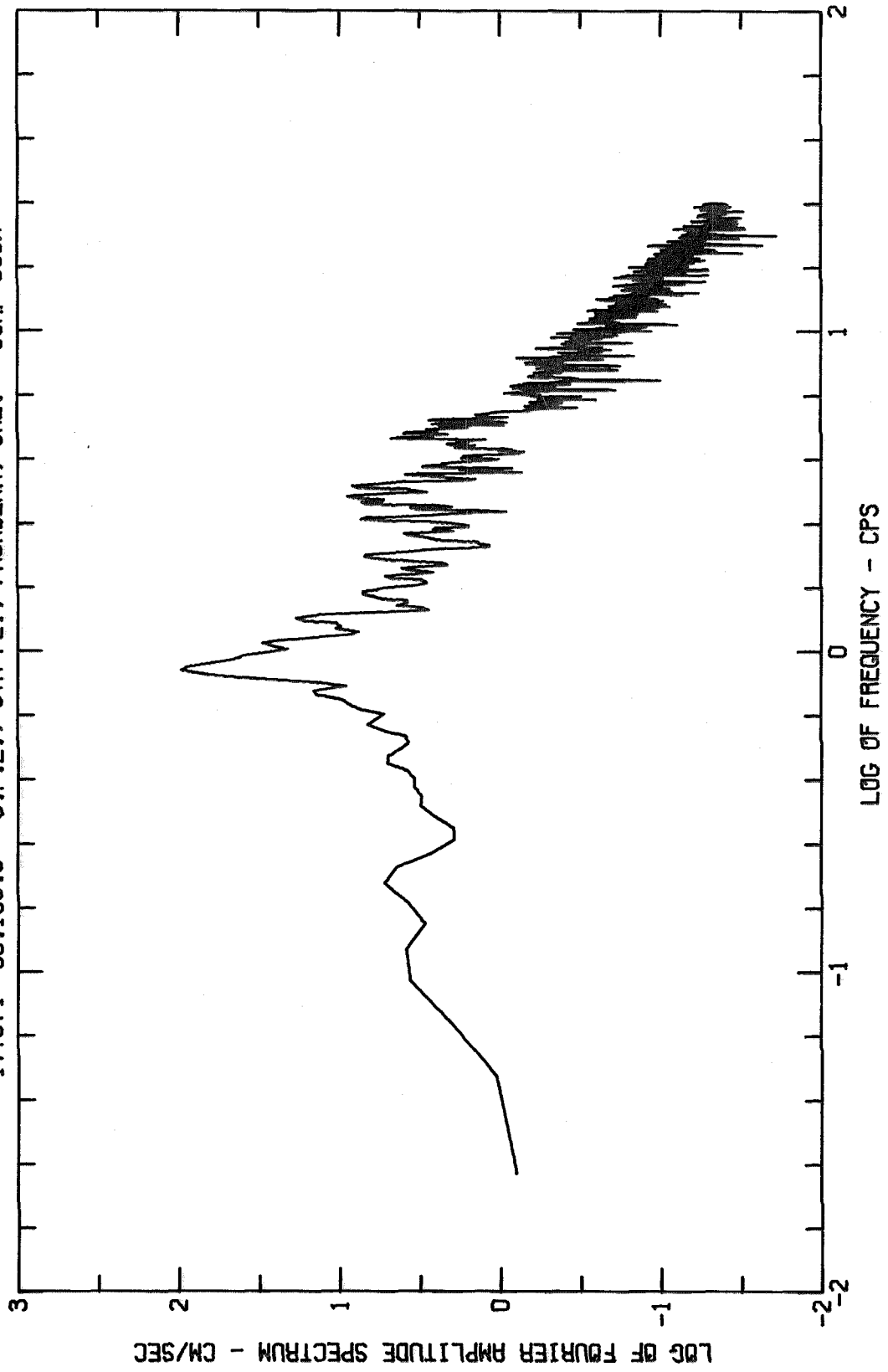
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BORREGO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
IVY374 68.100.0 J.P.L., 9TH FL., PASADENA, CAL. COMP S82E



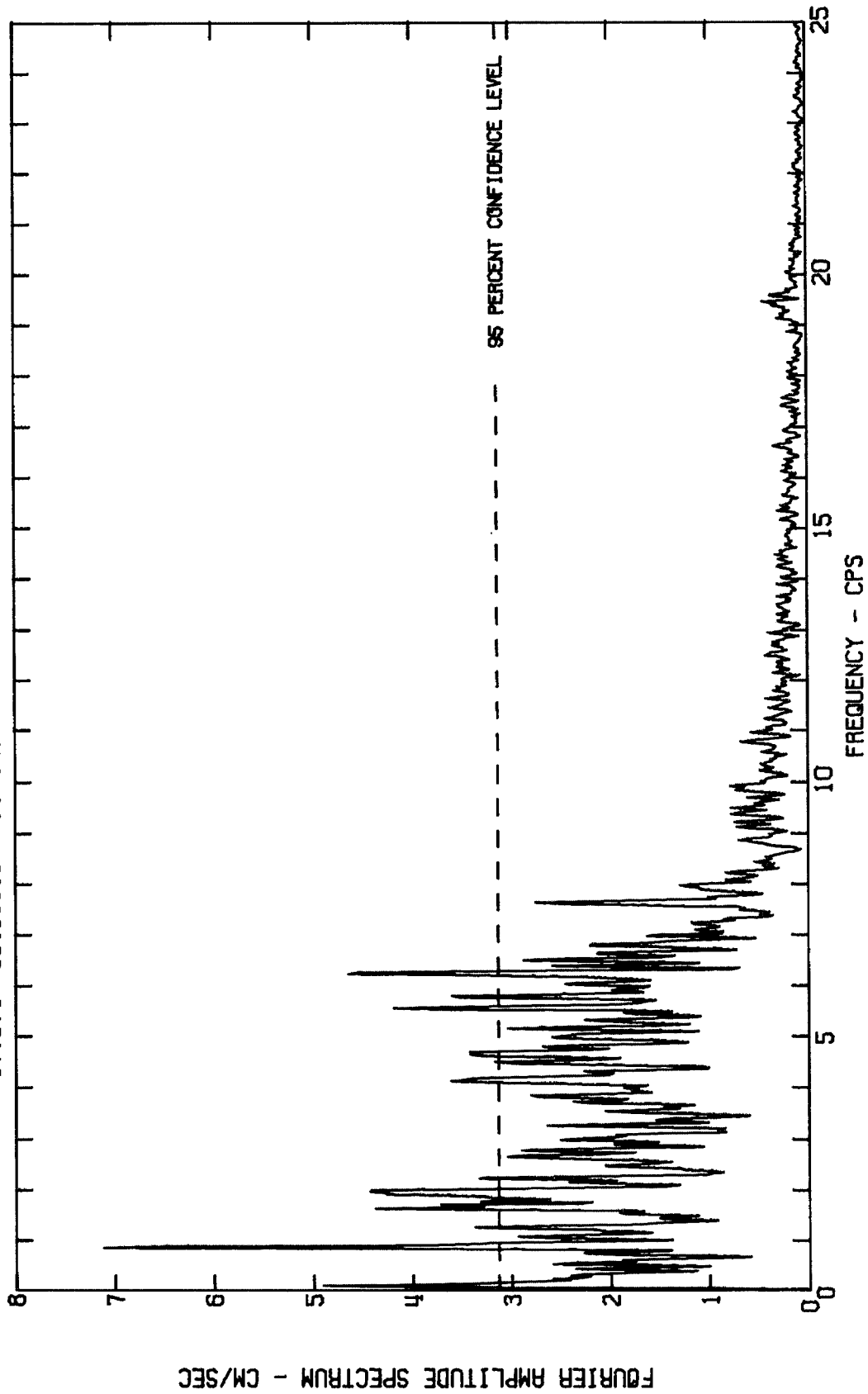
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORREGO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
IVY374 68.100.0 J.P.L., 9TH FL., PASADENA, CAL. COMP S08W



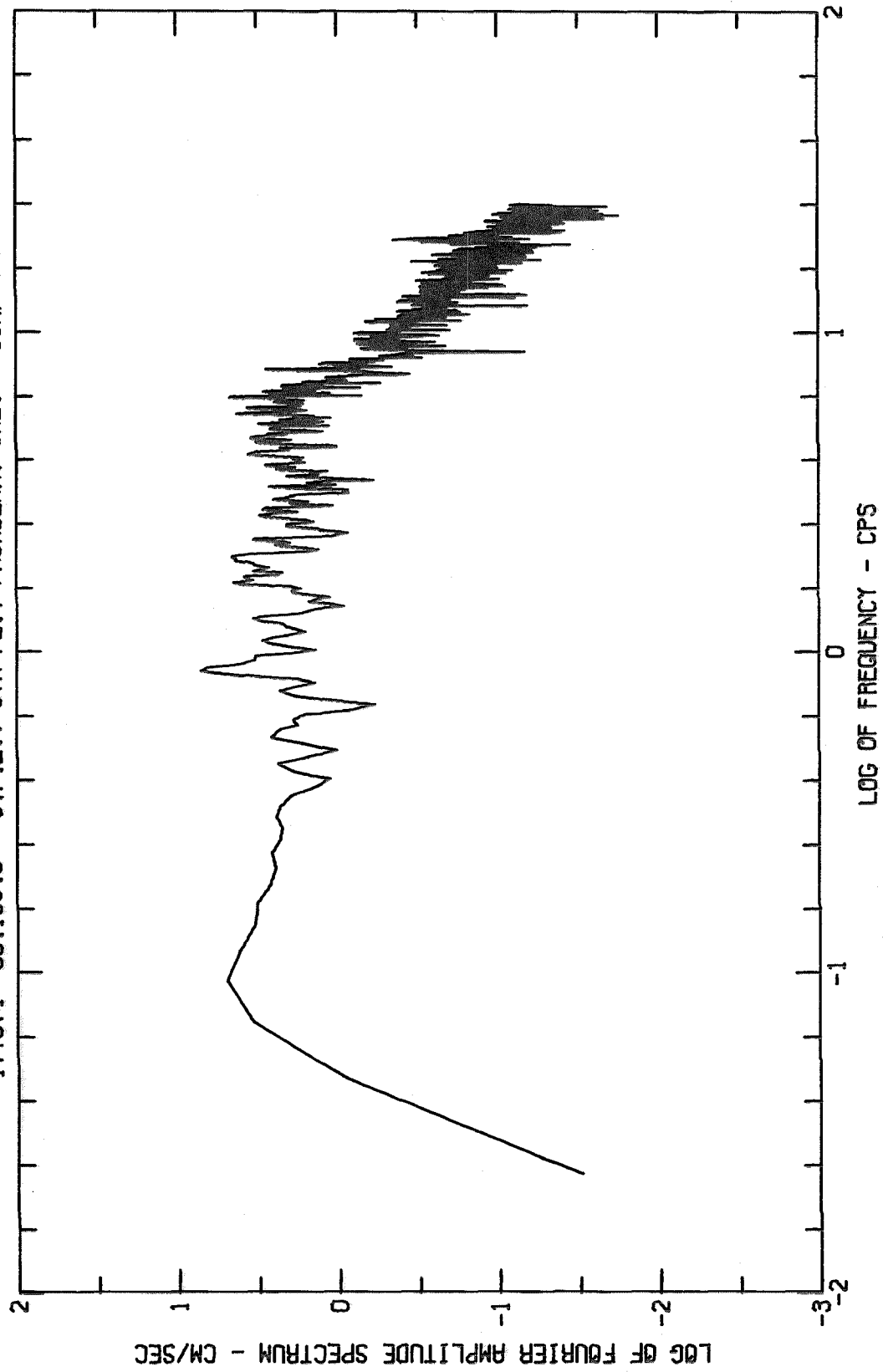
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
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IVY374 68.100.0 J.P.L., 9TH FL., PASADENA, CAL. COMP S08W

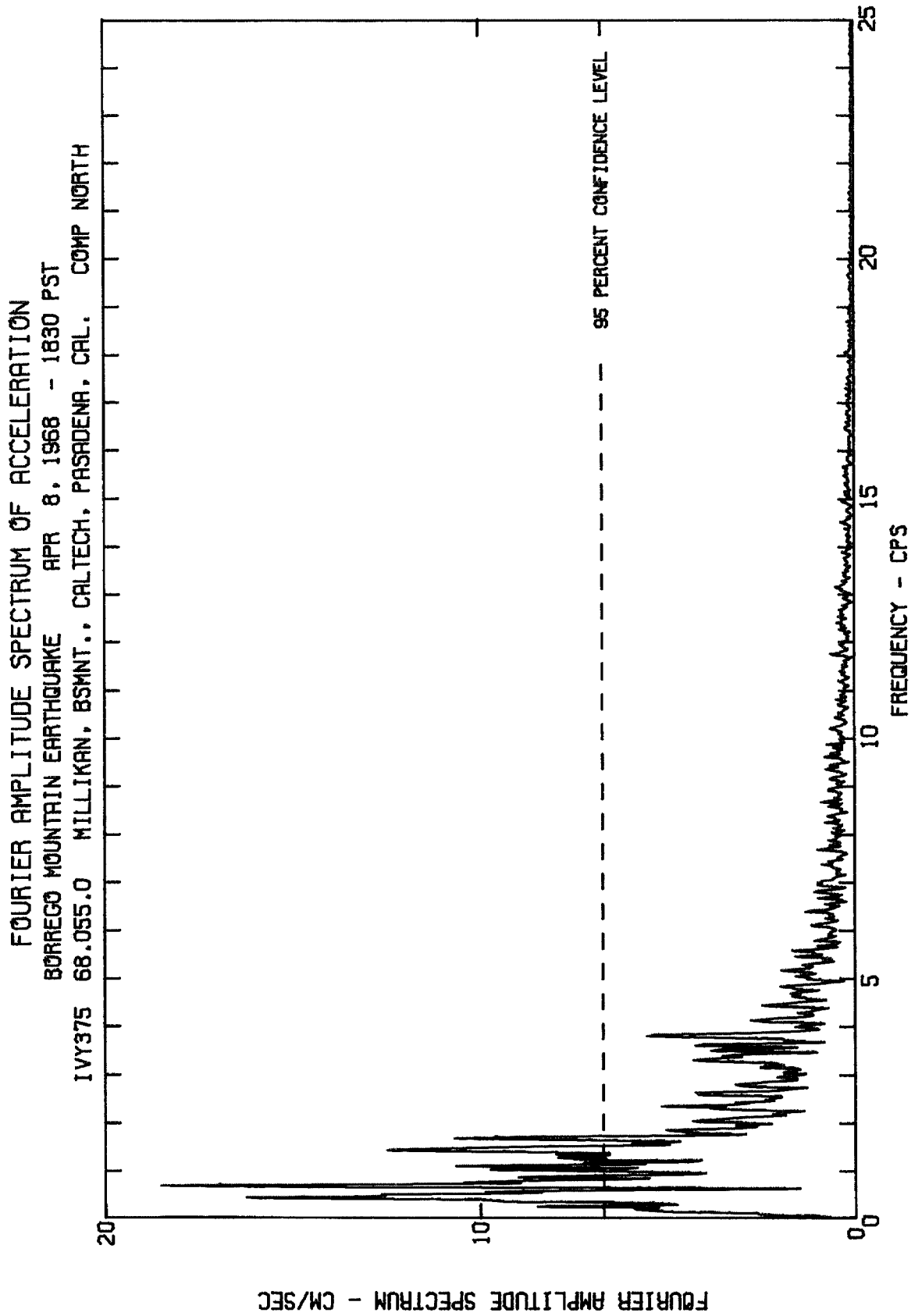


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BORRERO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
IVY374 68.100.0 J.P.L., 9TH FL., PASADENA, CAL. COMP DOWN

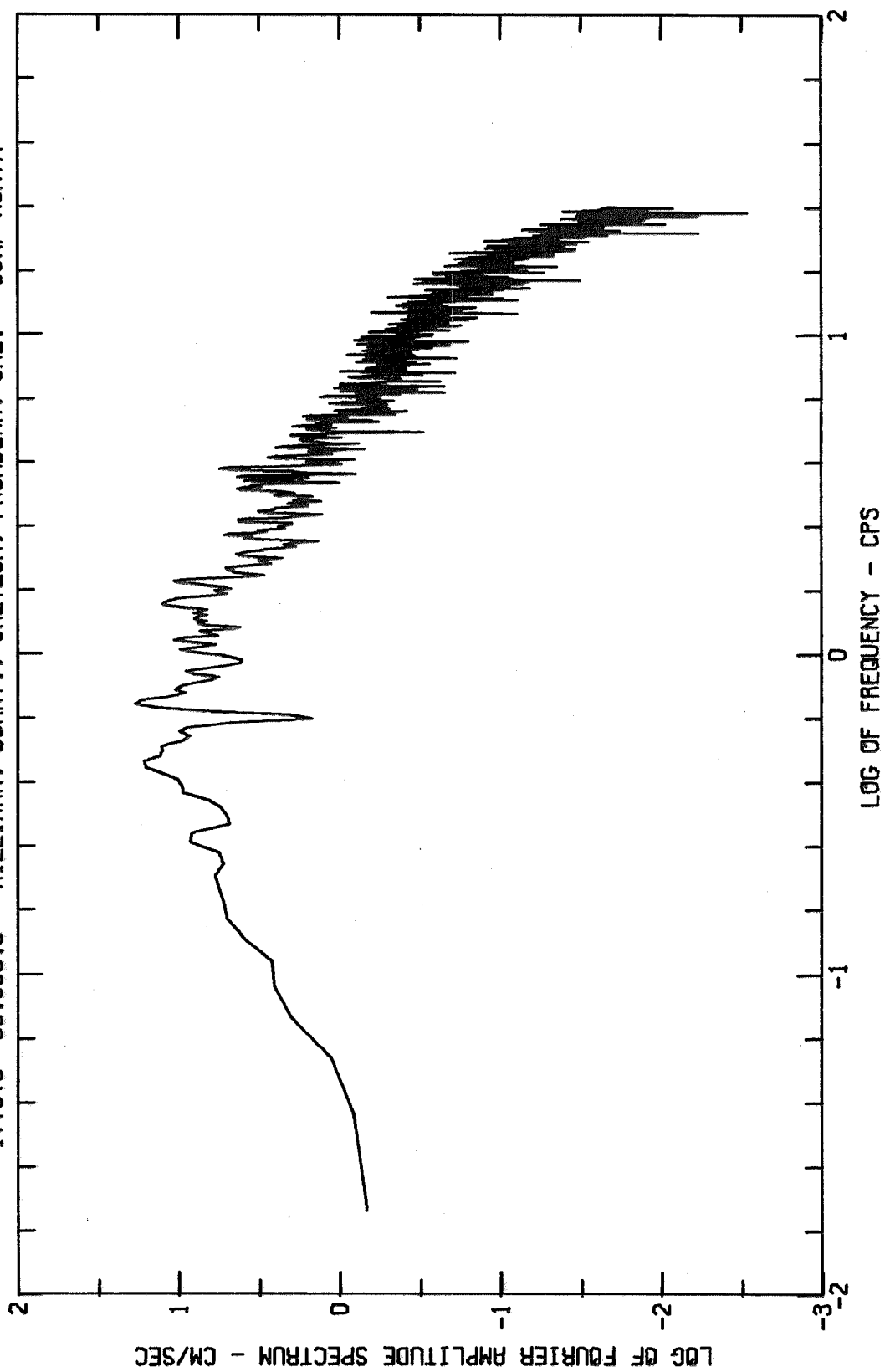


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORREGO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
IVY374 68.100.0 J.P.L., 9TH FL., PASADENA, CAL. COMP DOWN

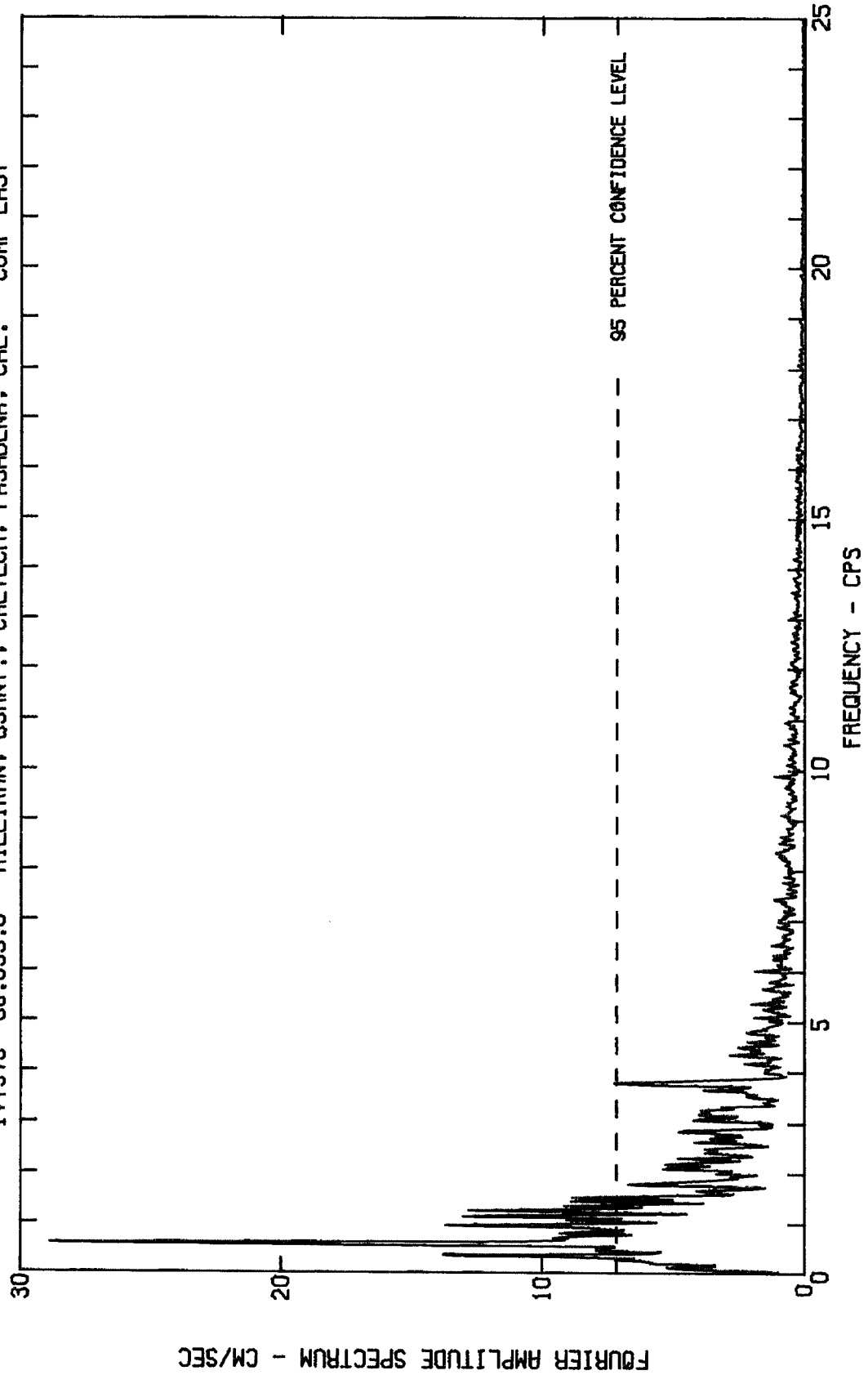




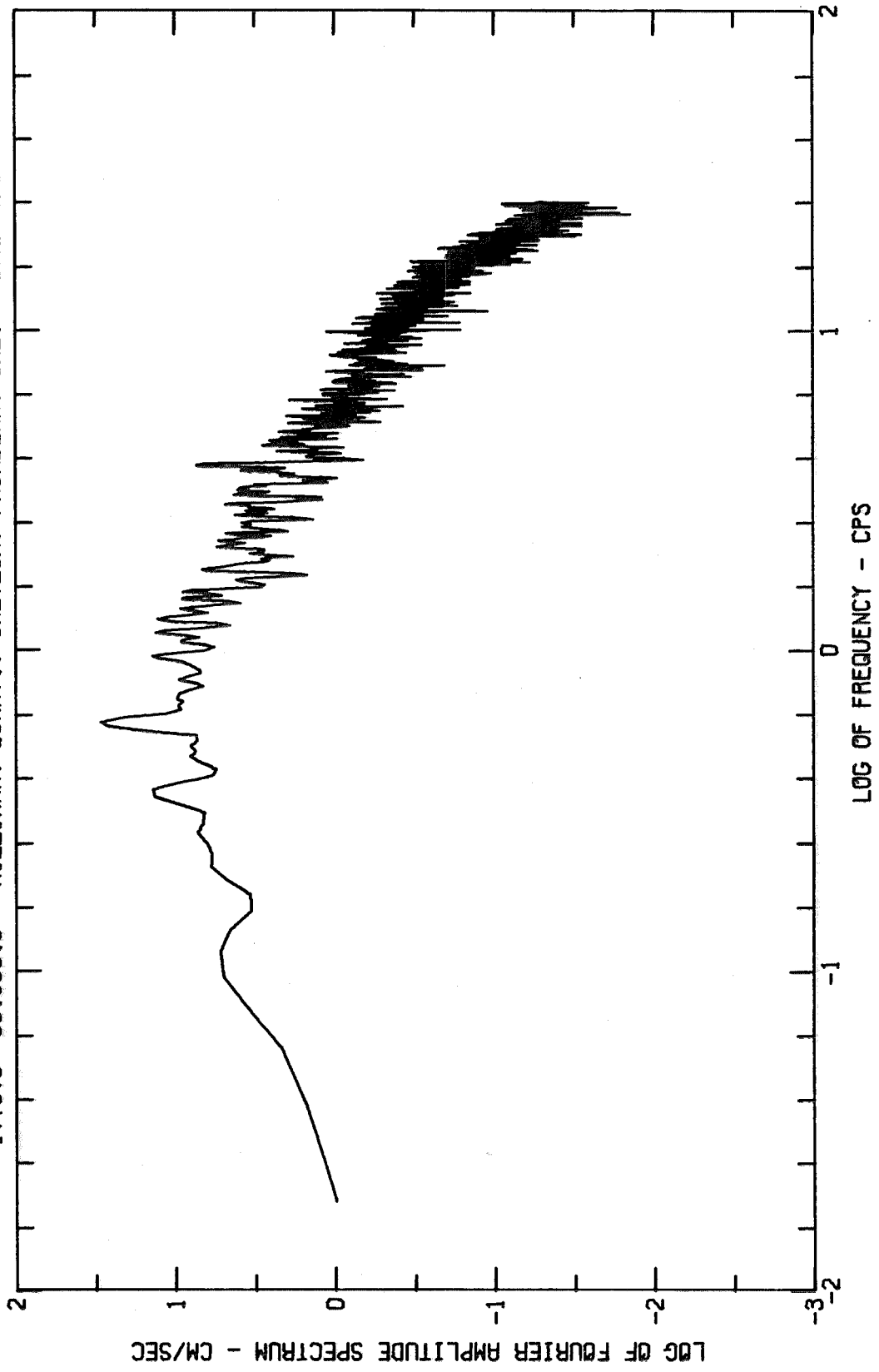
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORREGO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
IVY375 68.055.0 MILLIKAN, BSMT., CALTECH, PASADENA, CAL. COMP NORTH

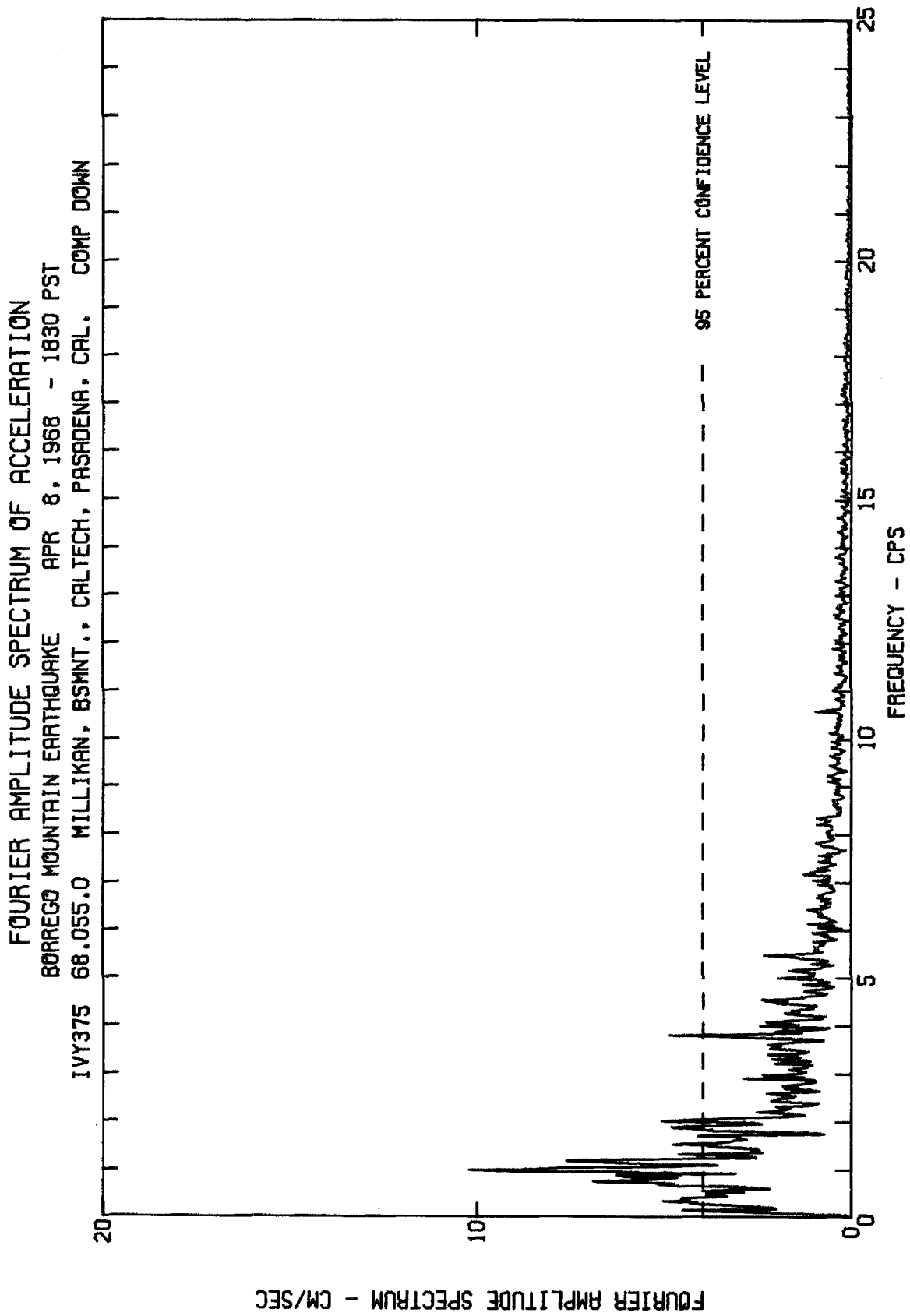


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORRERO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
IVY375 68.055.0 MILLIKAN, BSMNT., CALTECH, PASADENA, CAL. COMP EAST

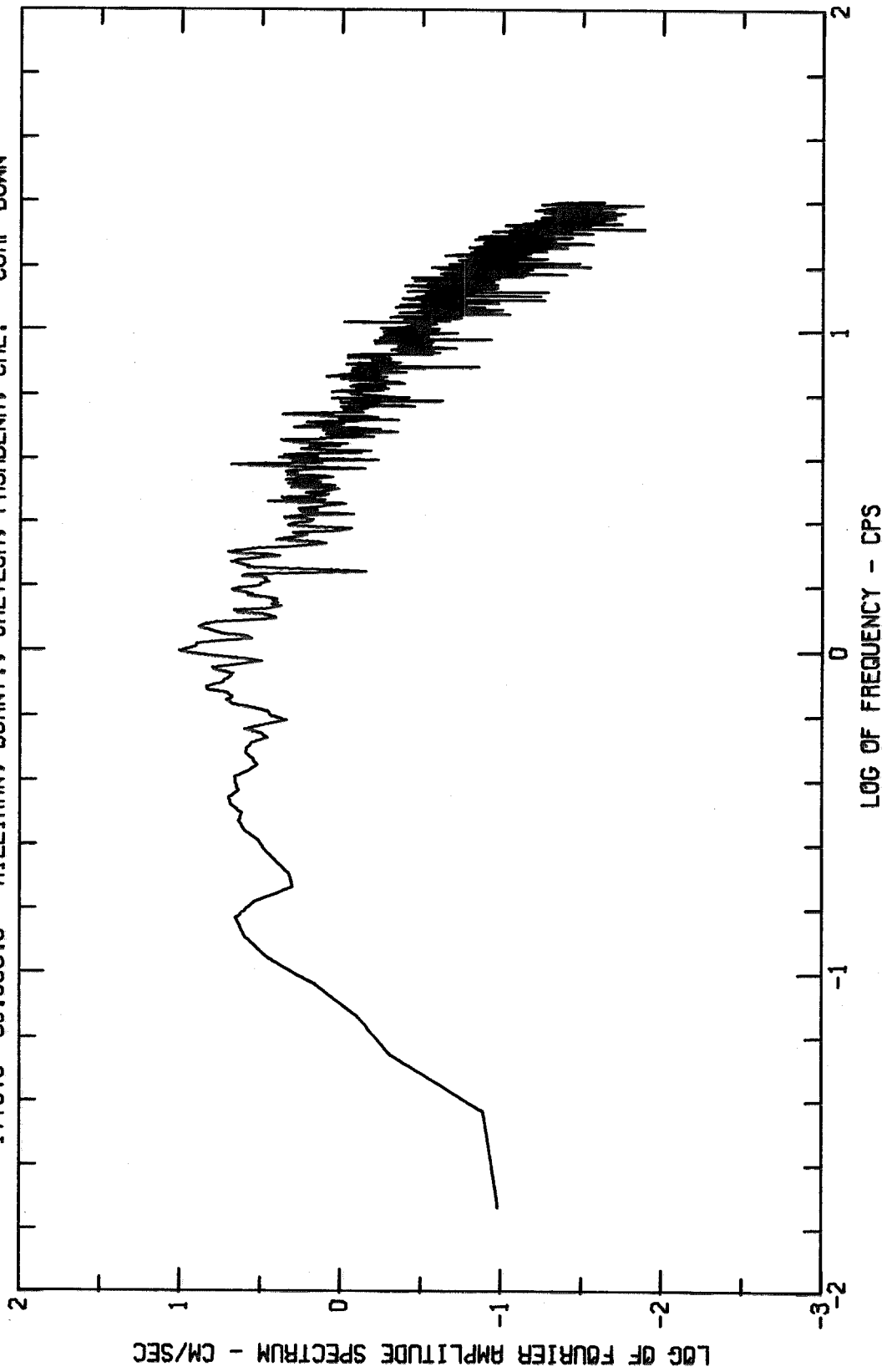


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORRERO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
IVY375 68.055.0 MILLIKAN, BSMNT., CALTECH, PASADENA, CAL. COMP EAST

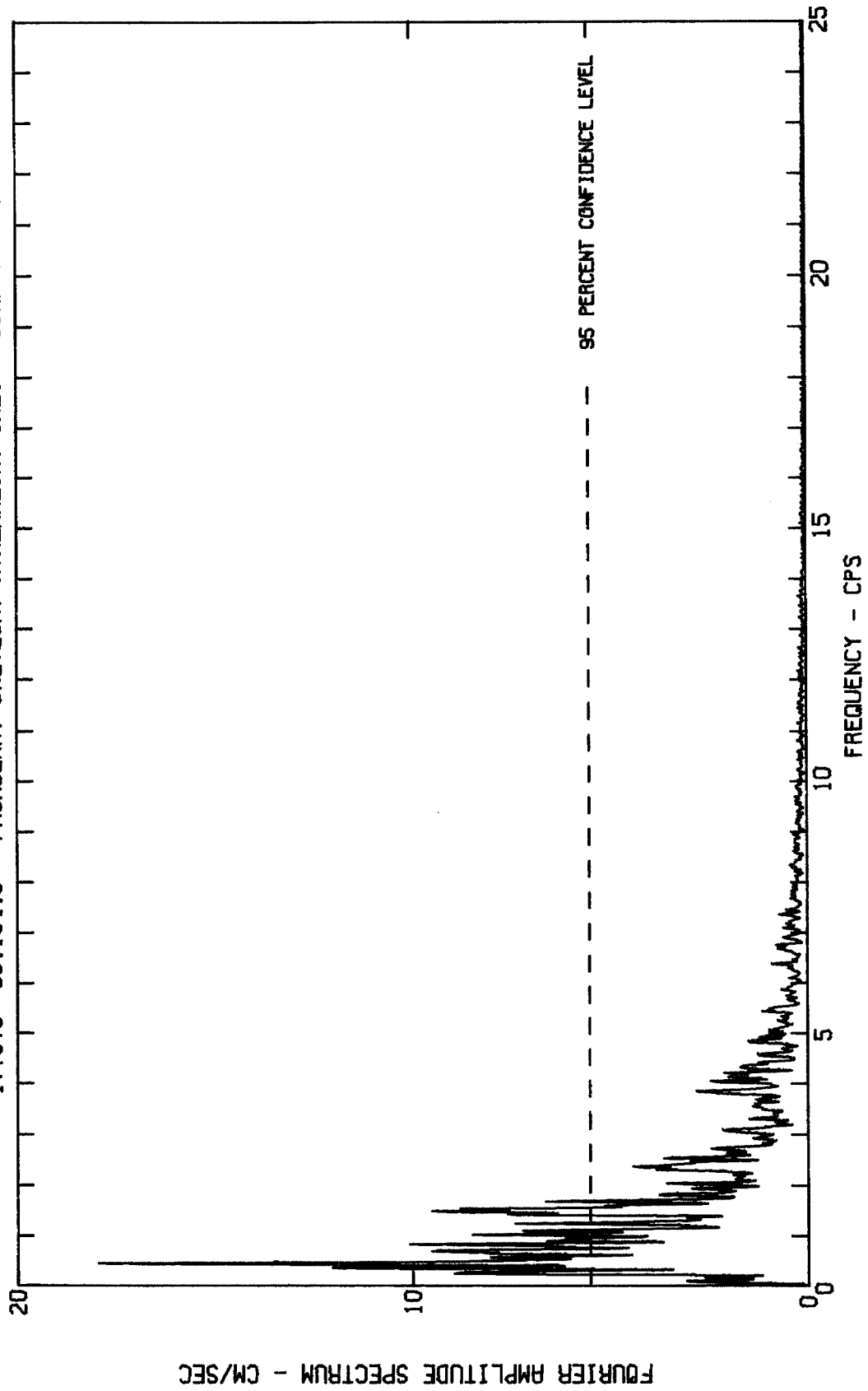




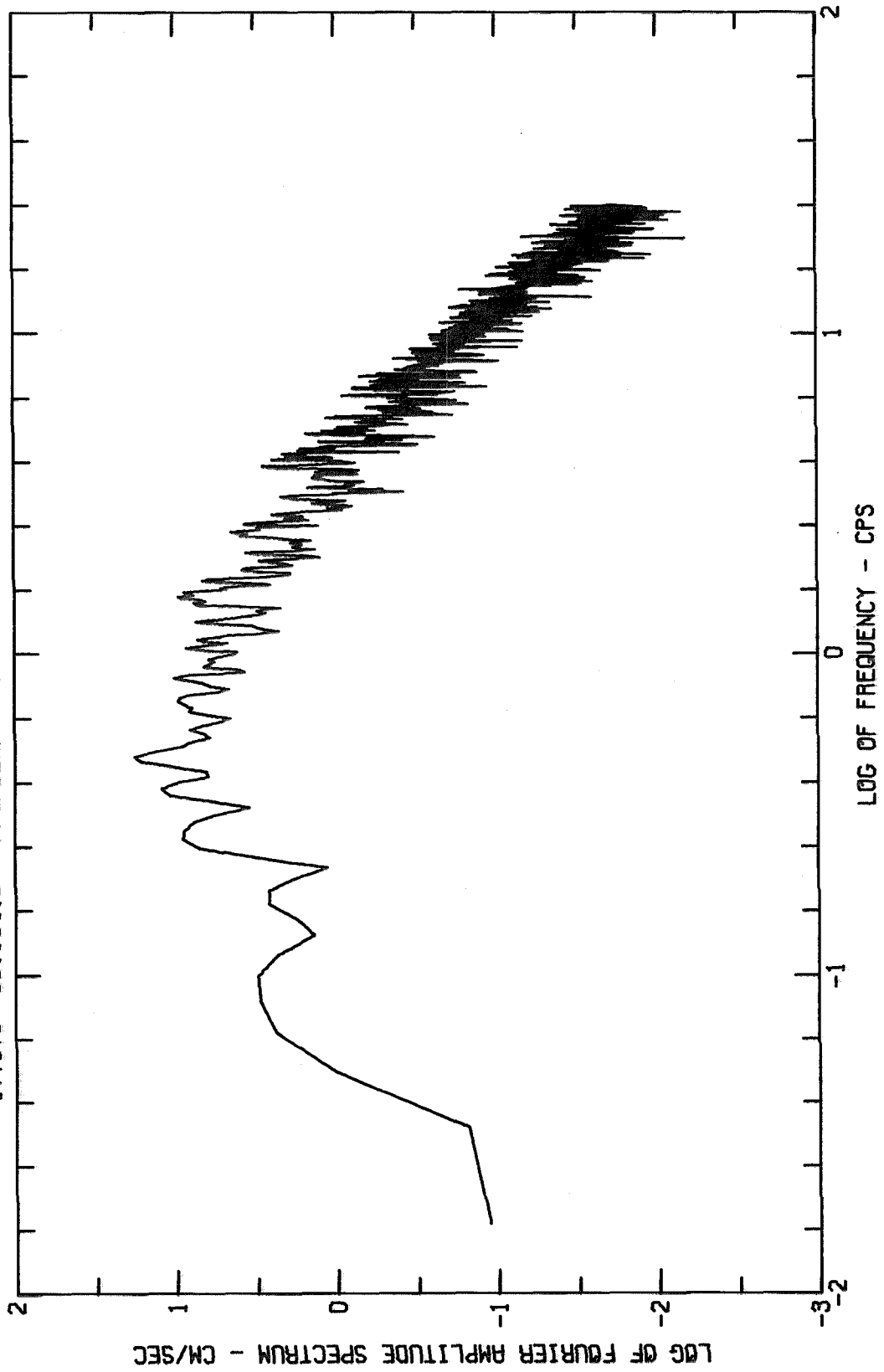
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORREGO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
IVY375 68.055.0 MILLIKAN, BSMNT., CALTECH, PASADENA, CAL. COMP DOWN



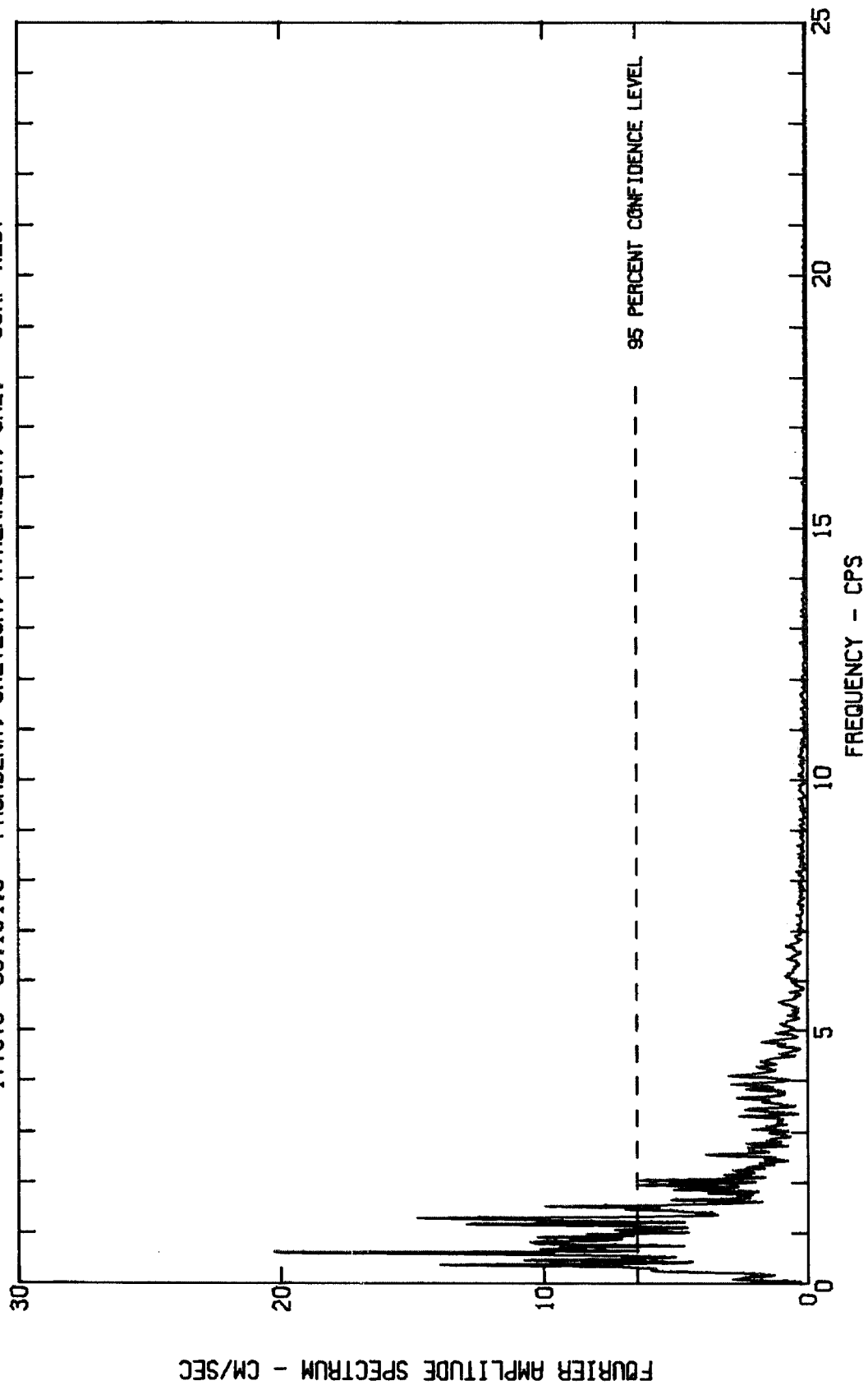
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORREGO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
IVY376 68.104.0 PASADENA, CALTECH, ATHENAEUM, CAL. COMP SOUTH



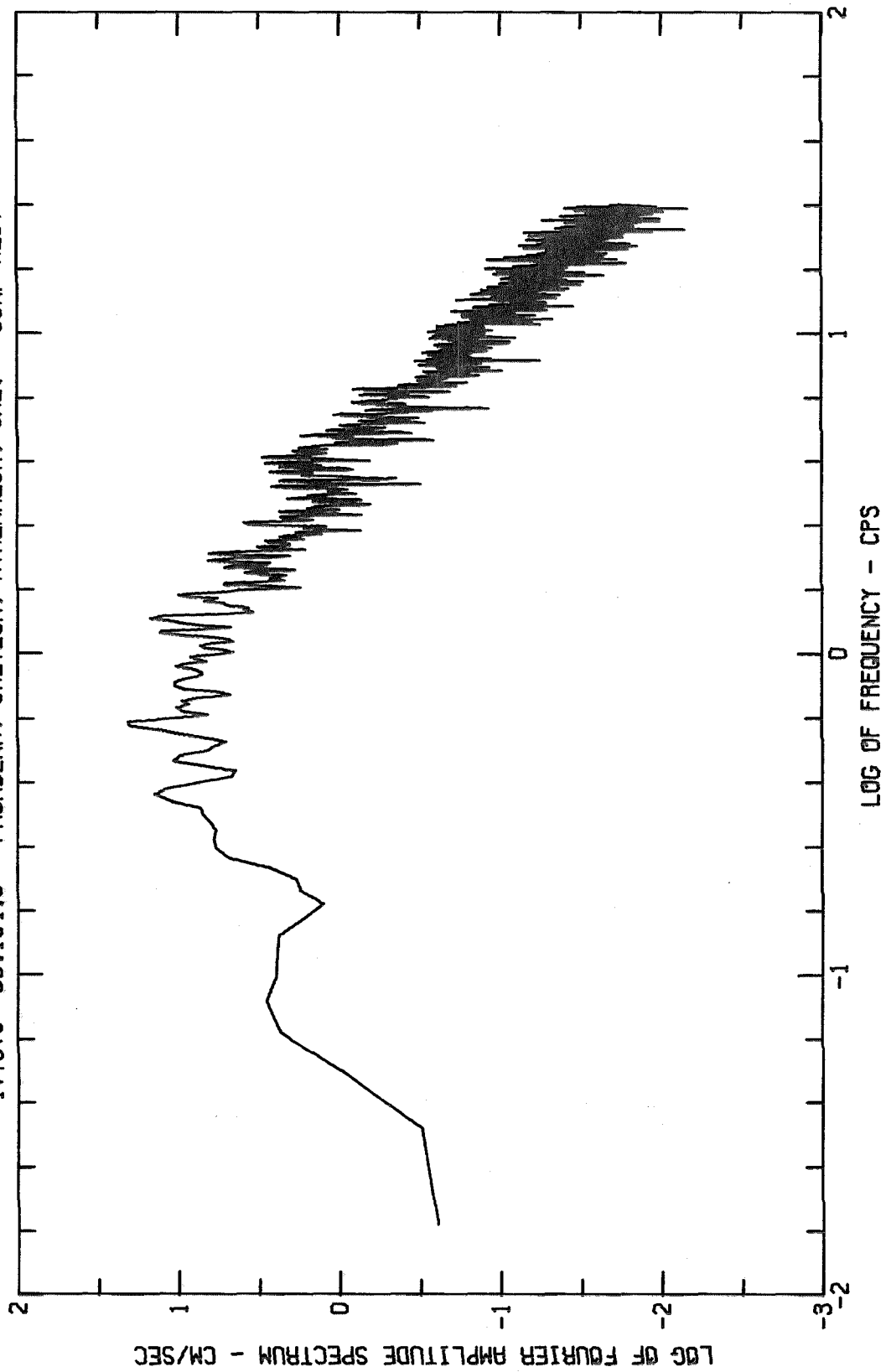
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORRERO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
1VY376 68.104.0 PASADENA, CALTECH, ATHENAEUM, CAL. COMP SOUTH



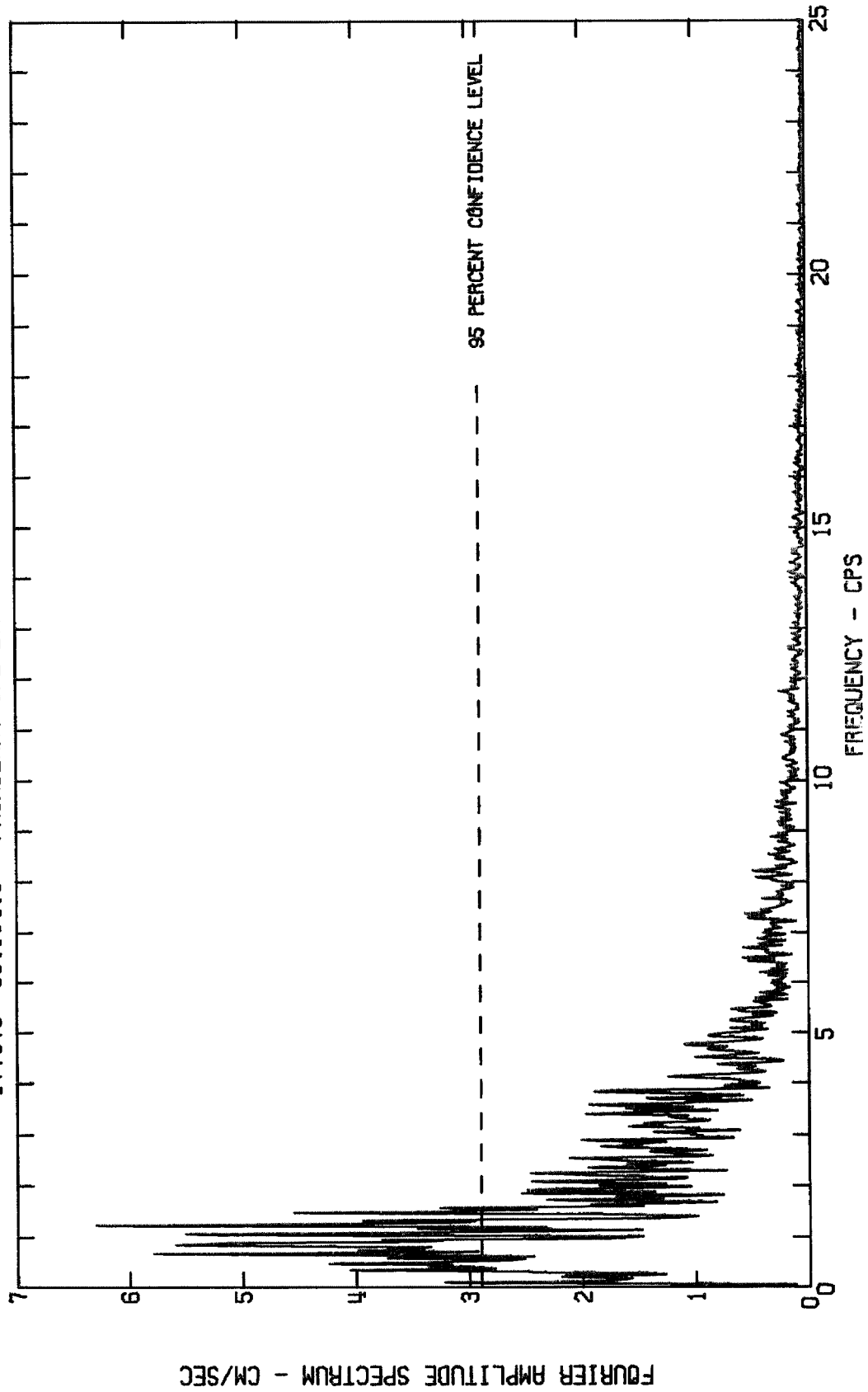
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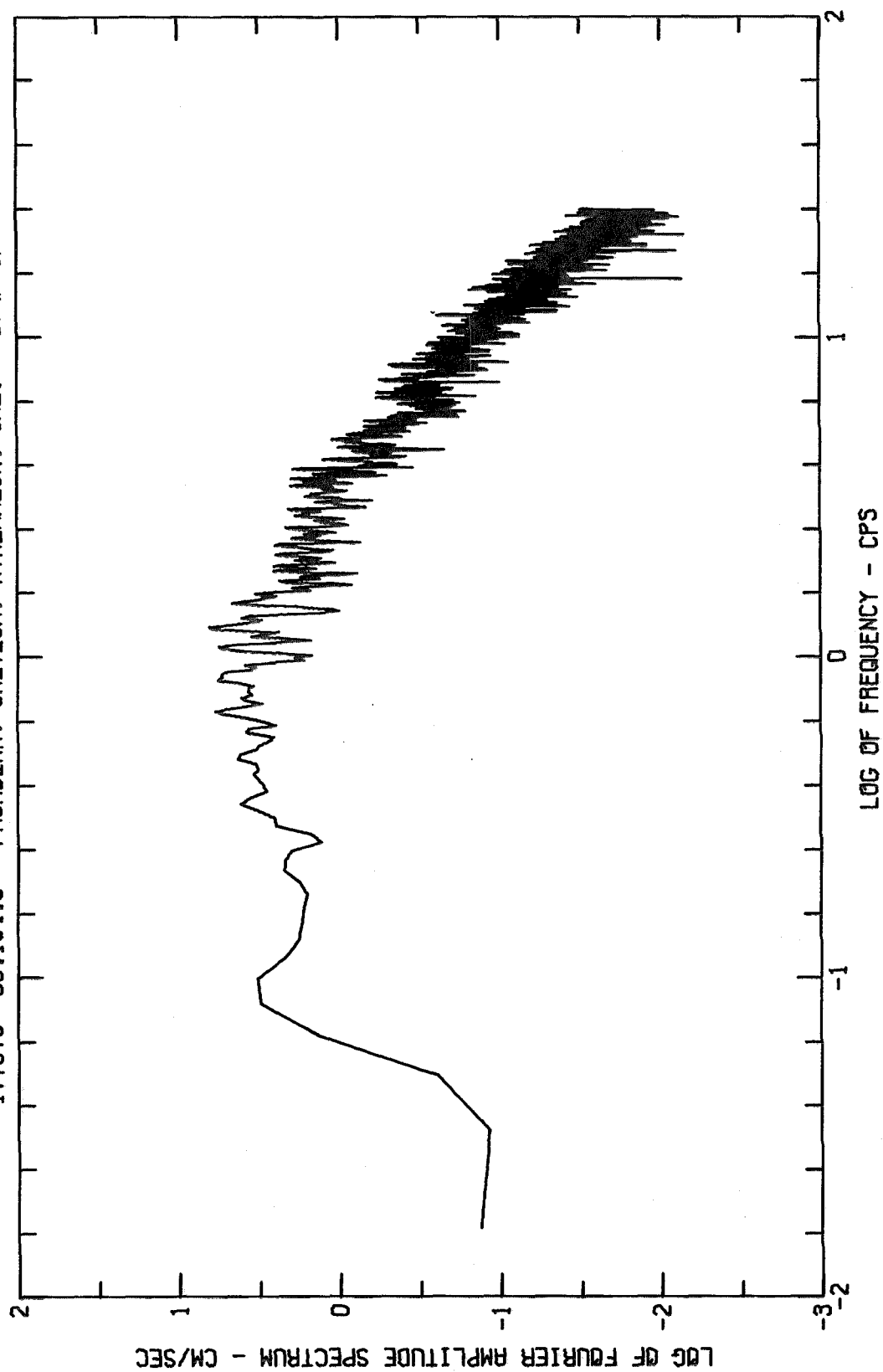
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BORREGO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
IVY376 68.104.0 PASADENA, CALTECH, ATHENAEUM, CAL. COMP WEST



FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORREGO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
IVY376 68.104.0 PASADENA, CALTECH, ATHENAEUM, CAL. COMP UP



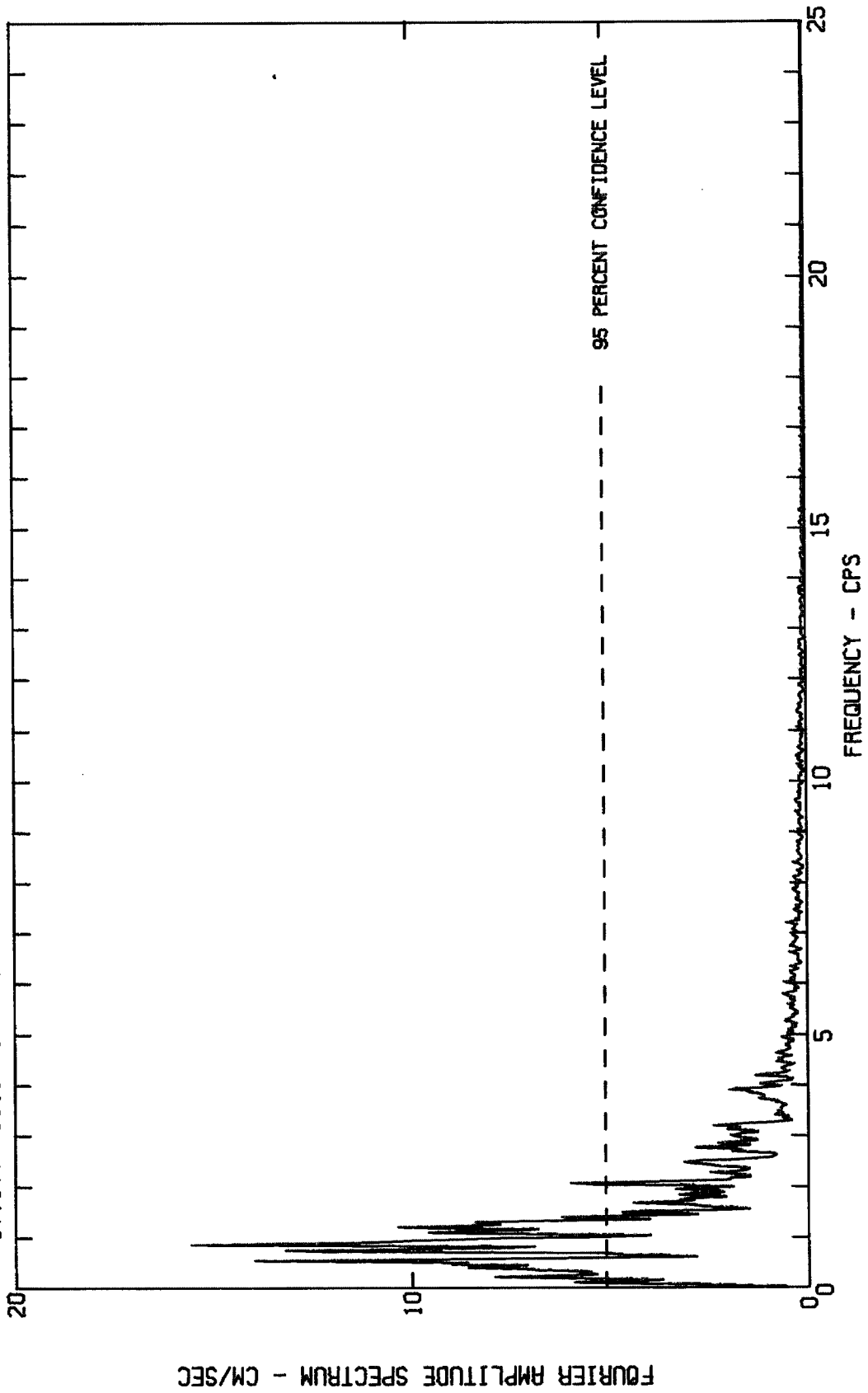
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BORREGO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
IVY376 68.104.0 PASADENA, CALTECH, ATHENAEUM, CAL. COMP UP

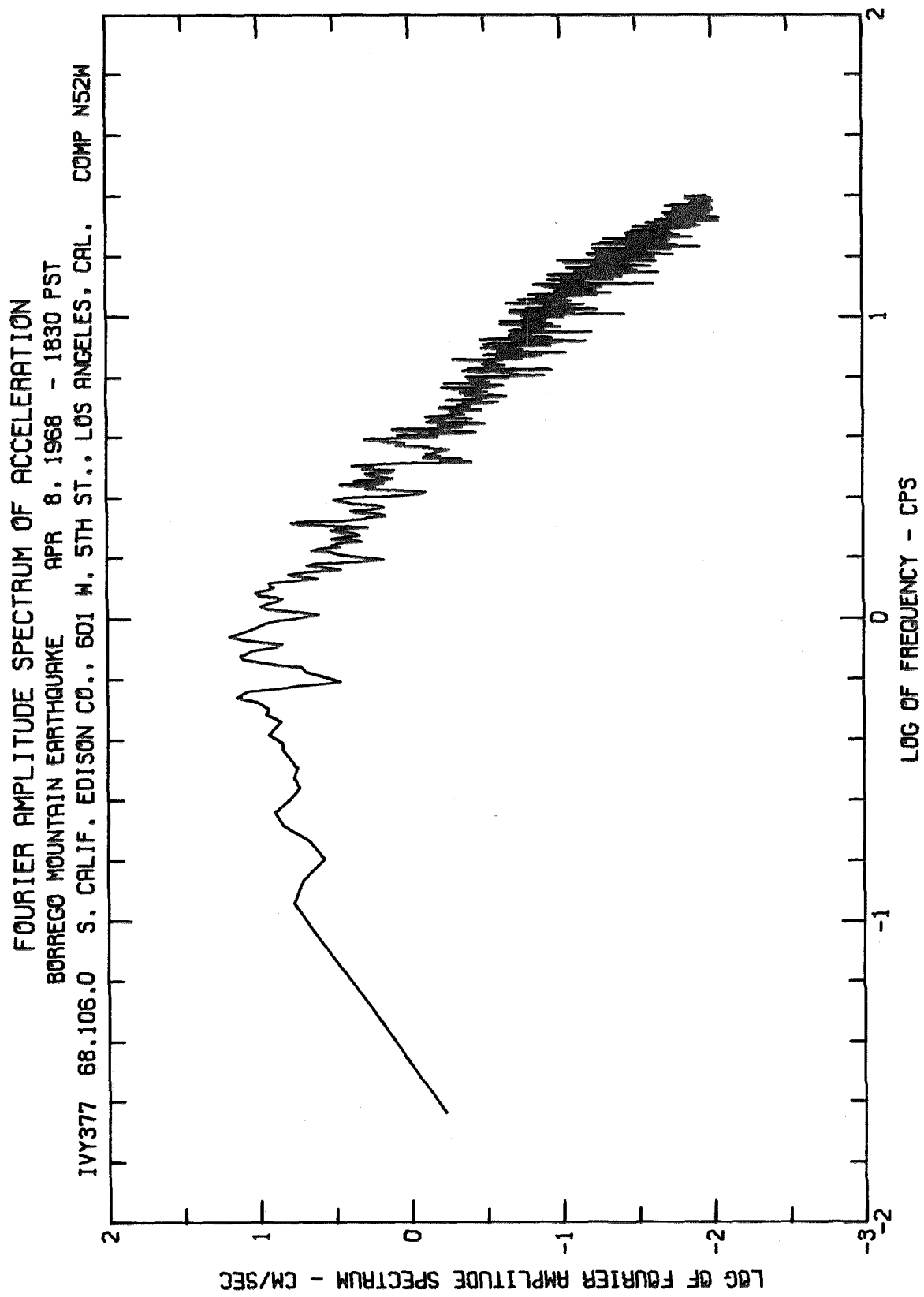


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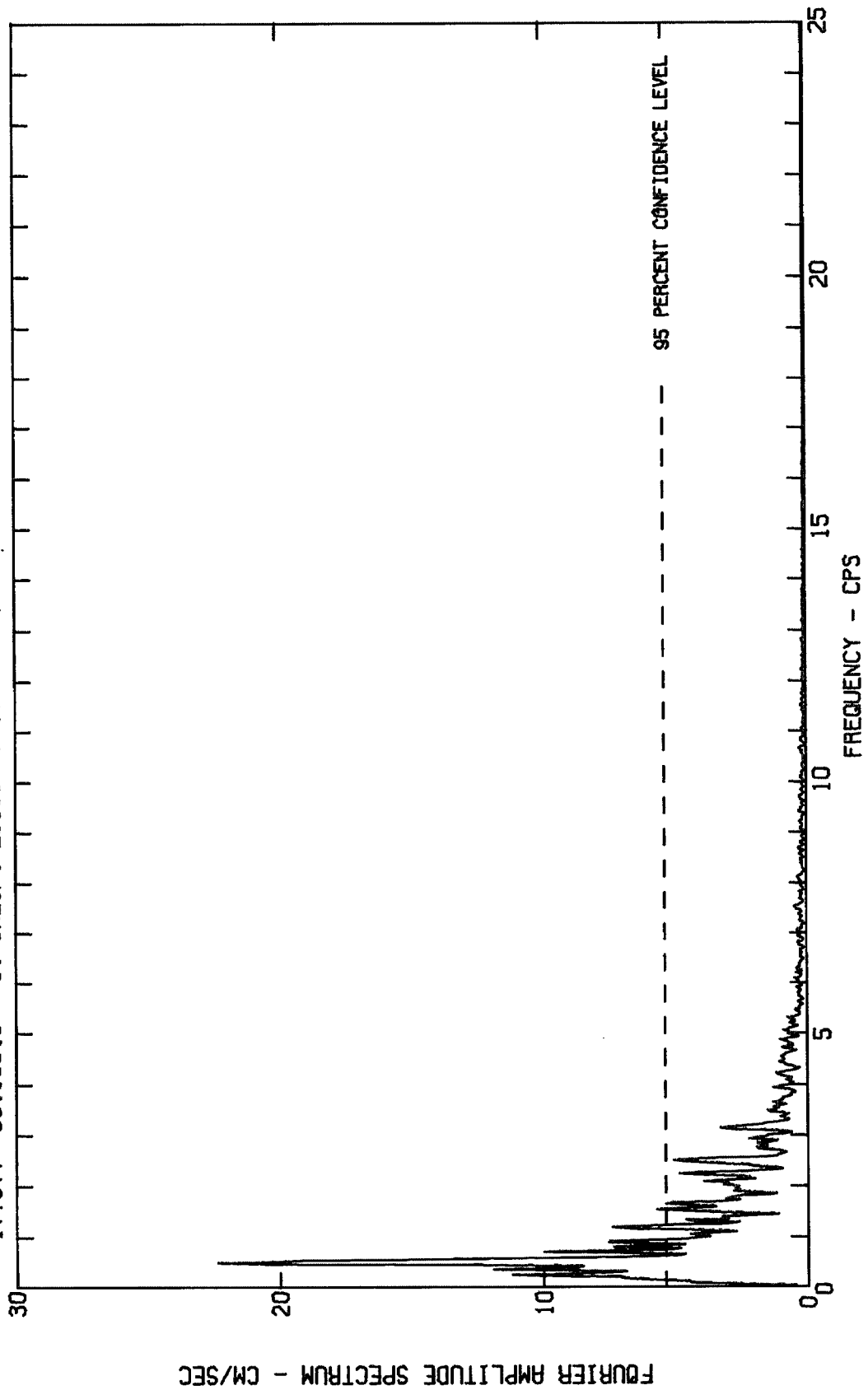
BORRERO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST

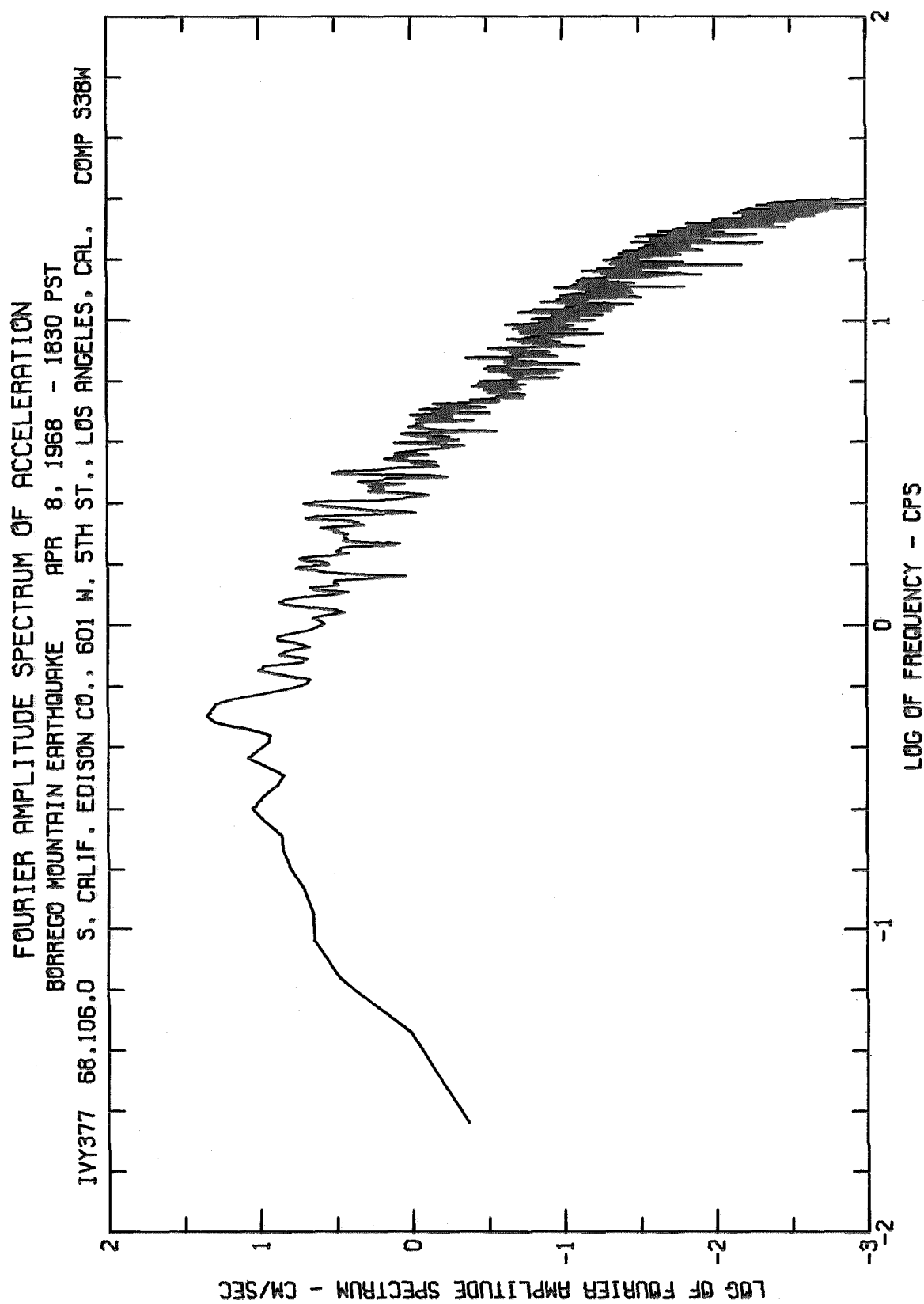
IVY377 68.106.0 S. CALIF. EDISON CO., 601 W. 5TH ST., LOS ANGELES, CAL. COMP N52W

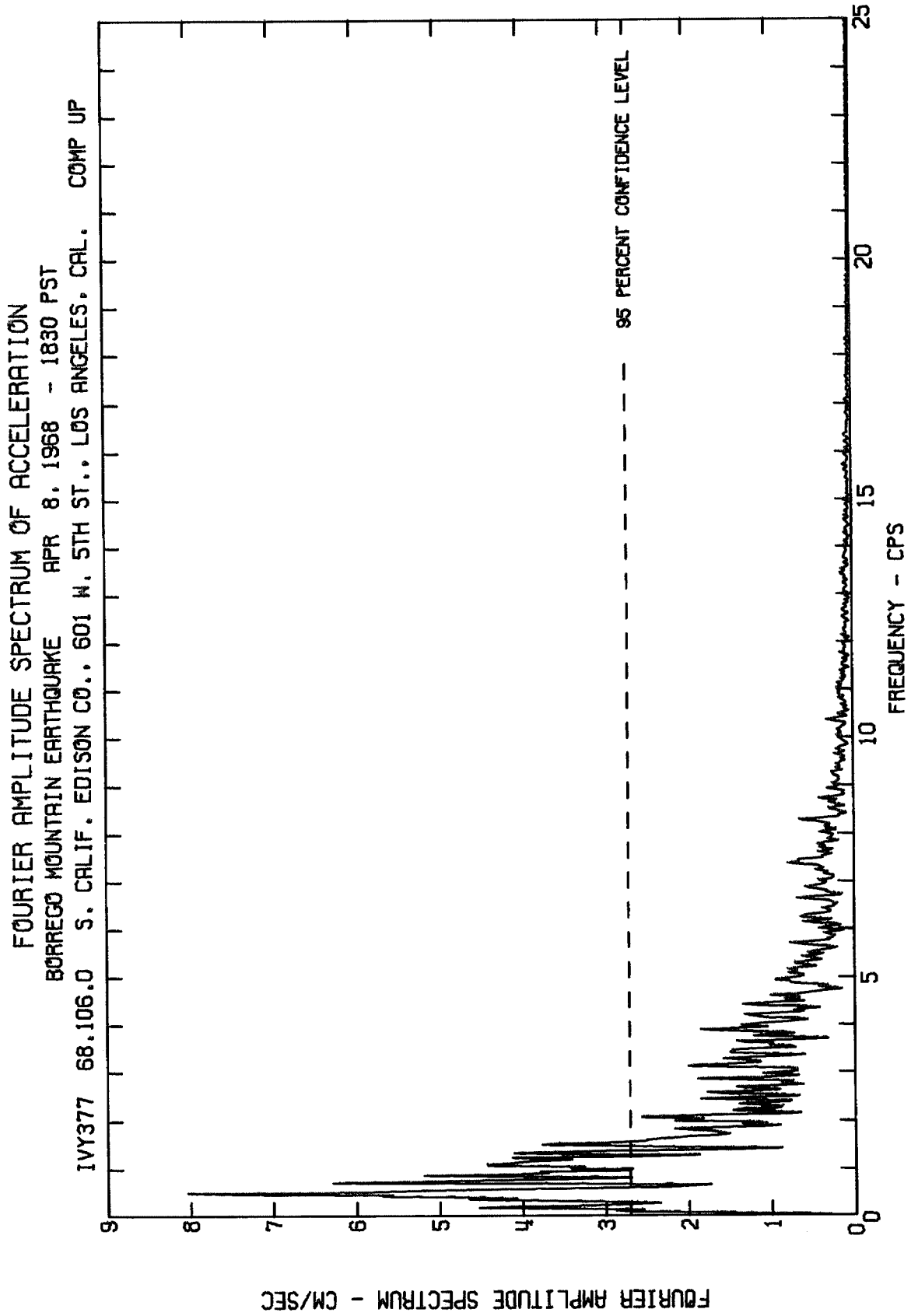




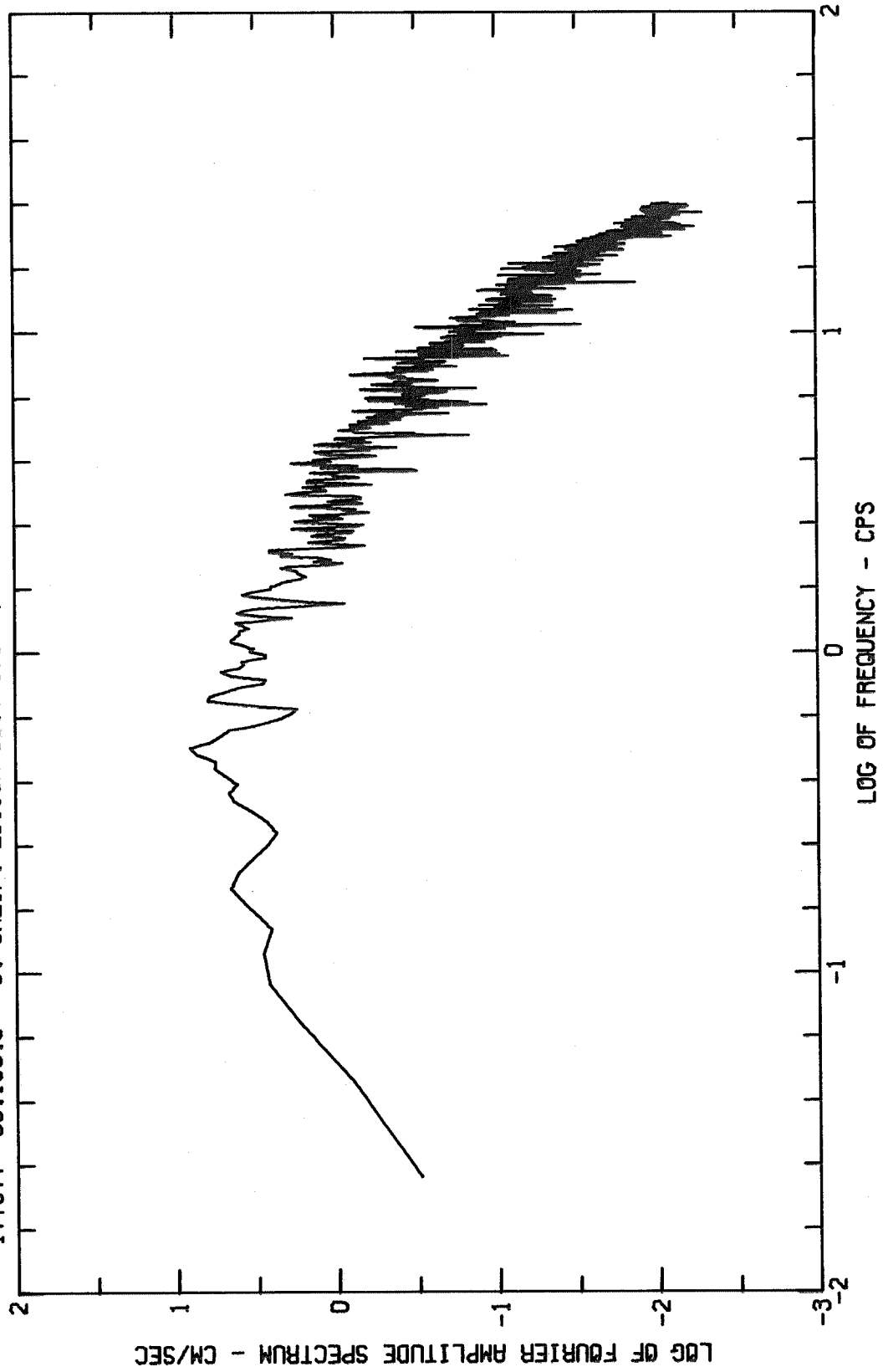
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORREGO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
IVY377 68.106.0 S. CALIF. EDISON CO., 601 W. 5TH ST., LOS ANGELES, CAL. COMP S38W



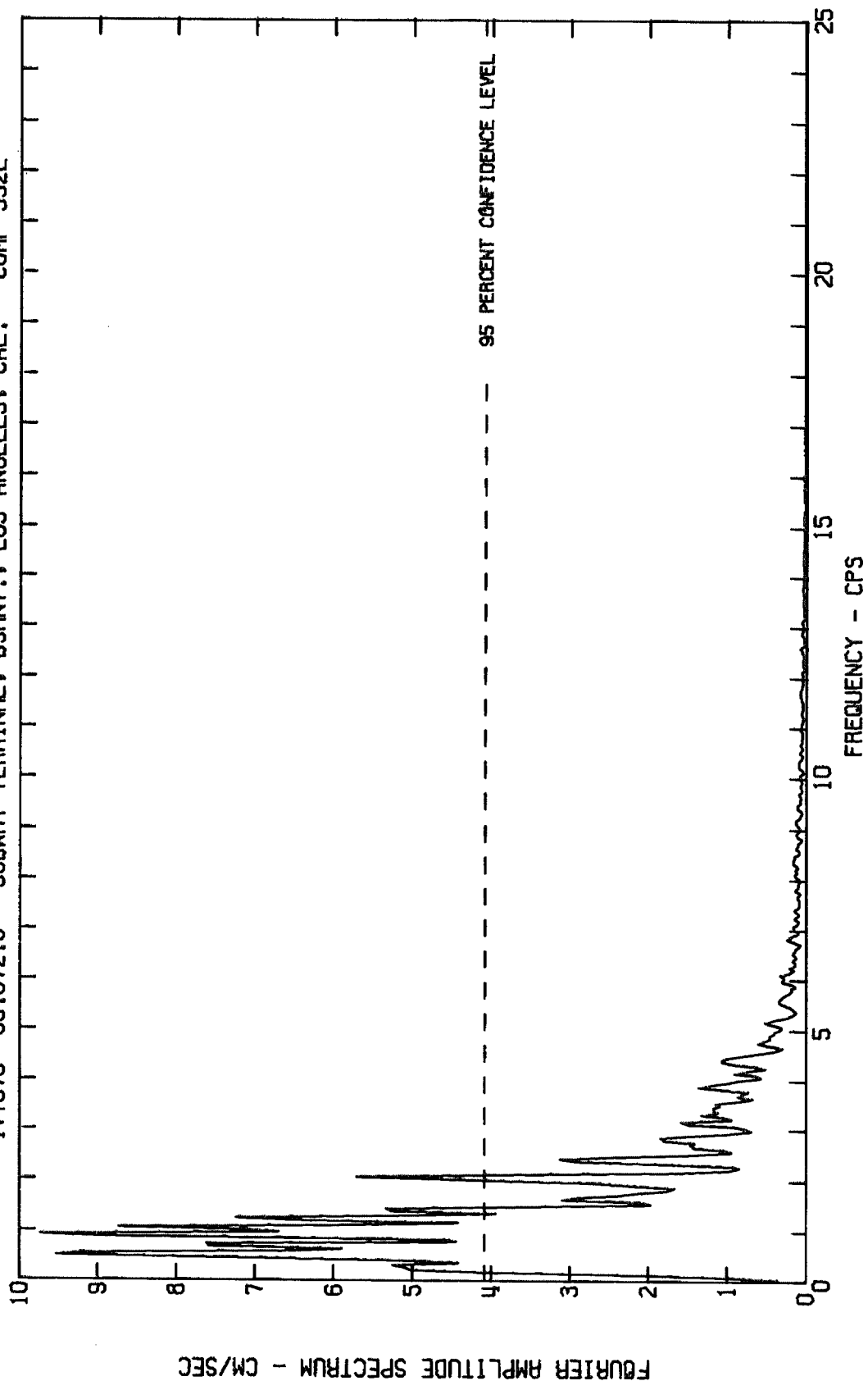




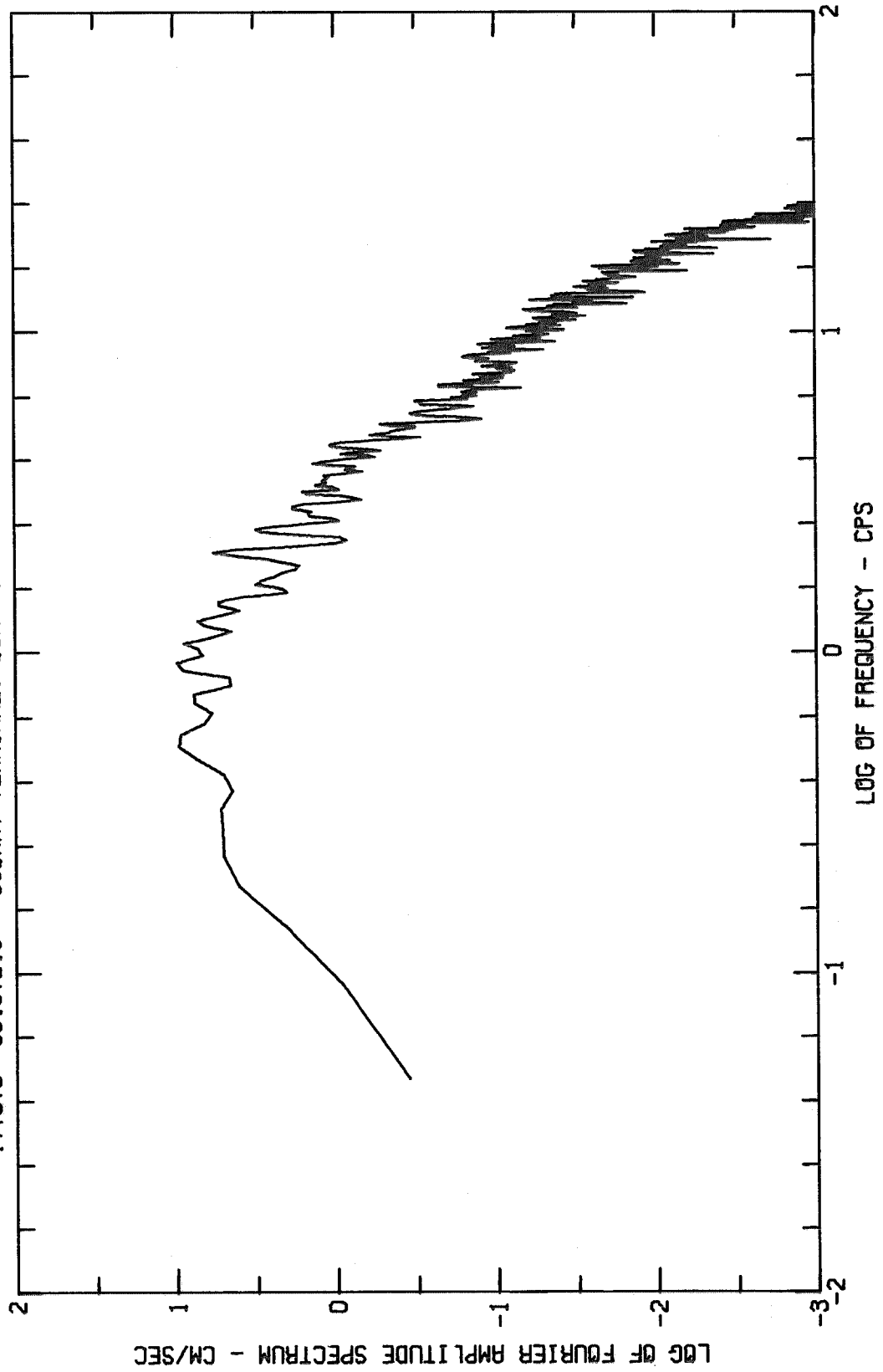
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BORREGO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
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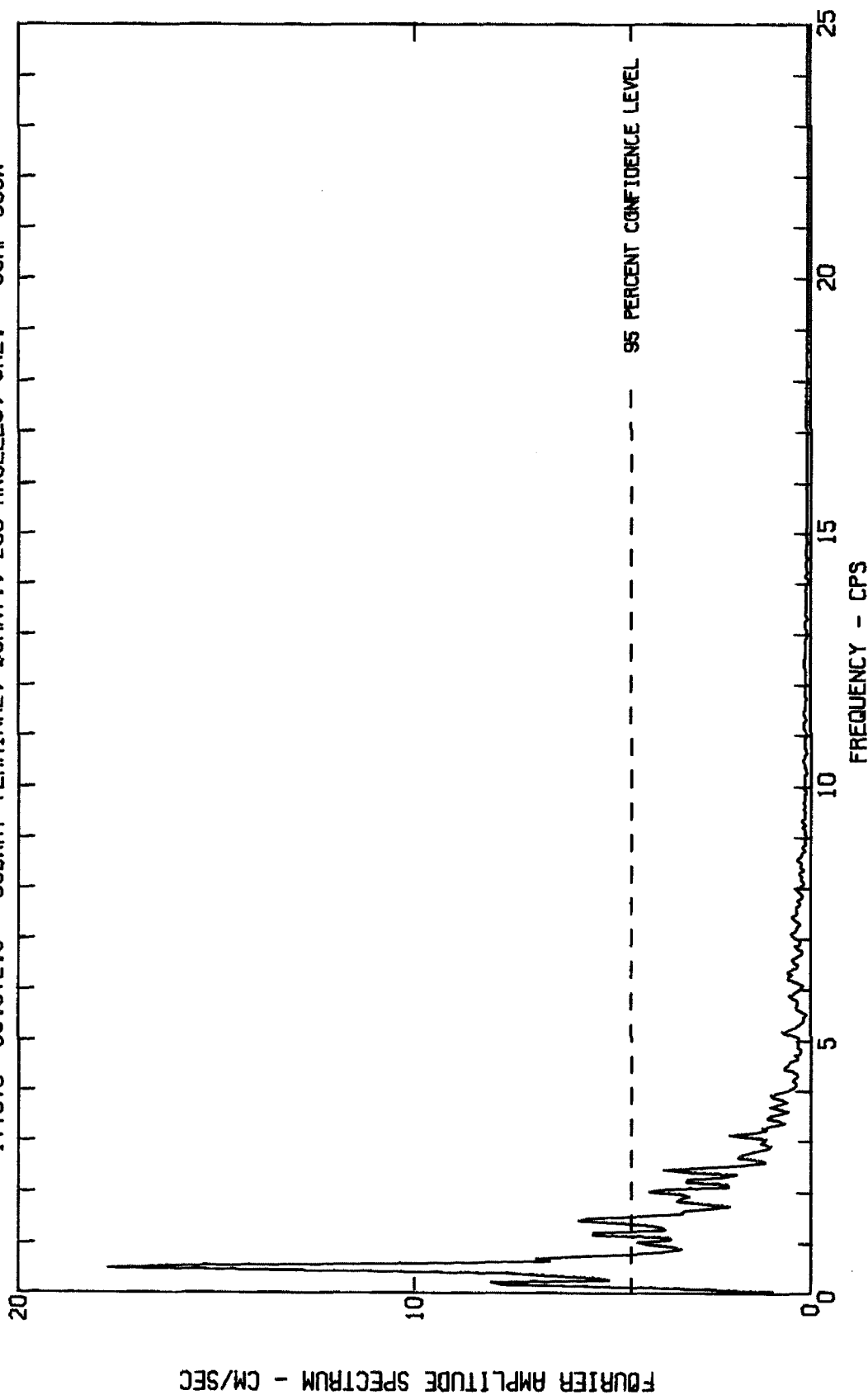
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORREGO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
1VY378 68.072.0 SUBWAY TERMINAL, BSMNT., LOS ANGELES, CAL. COMP S52E



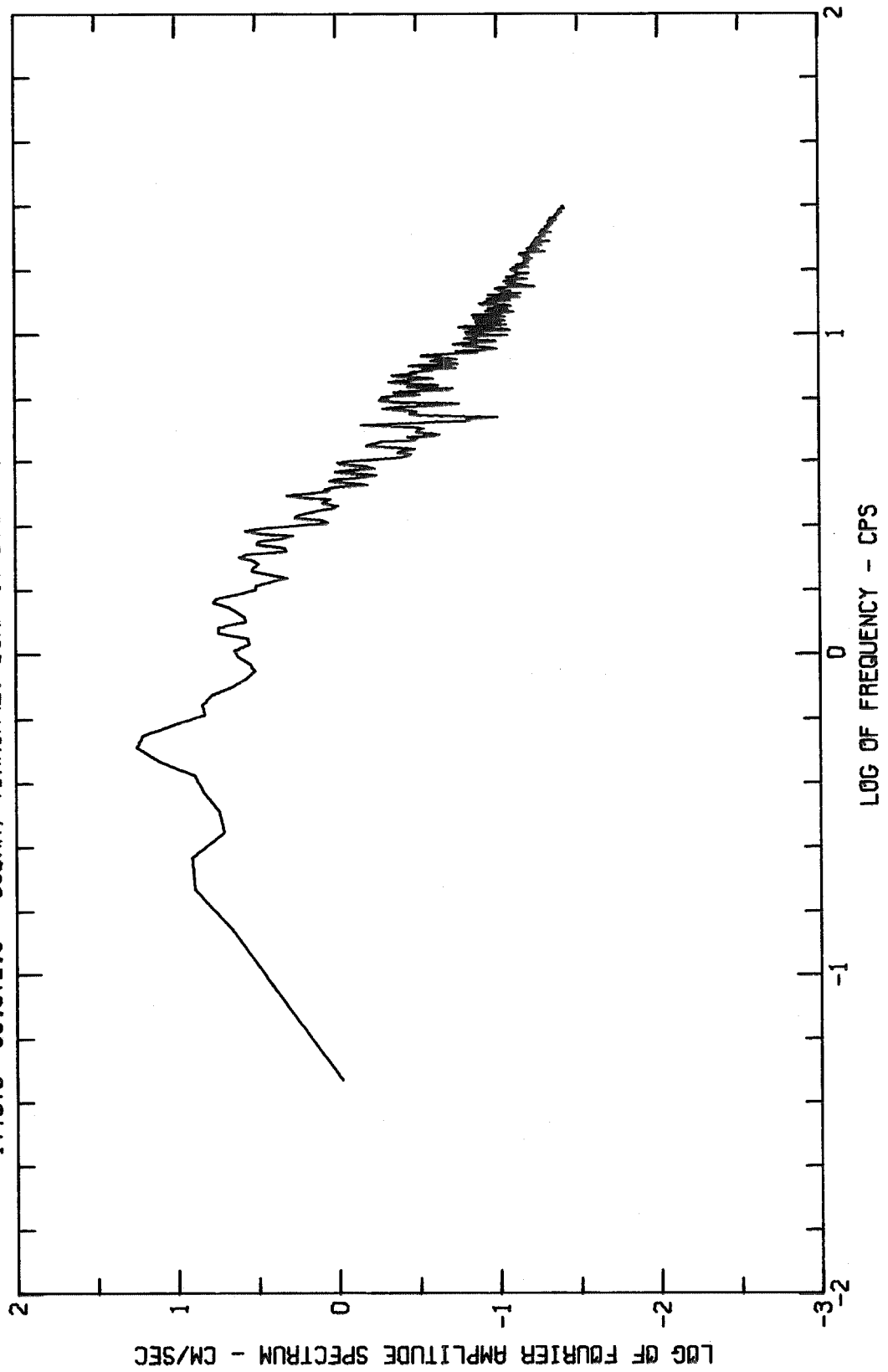
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BORRERO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
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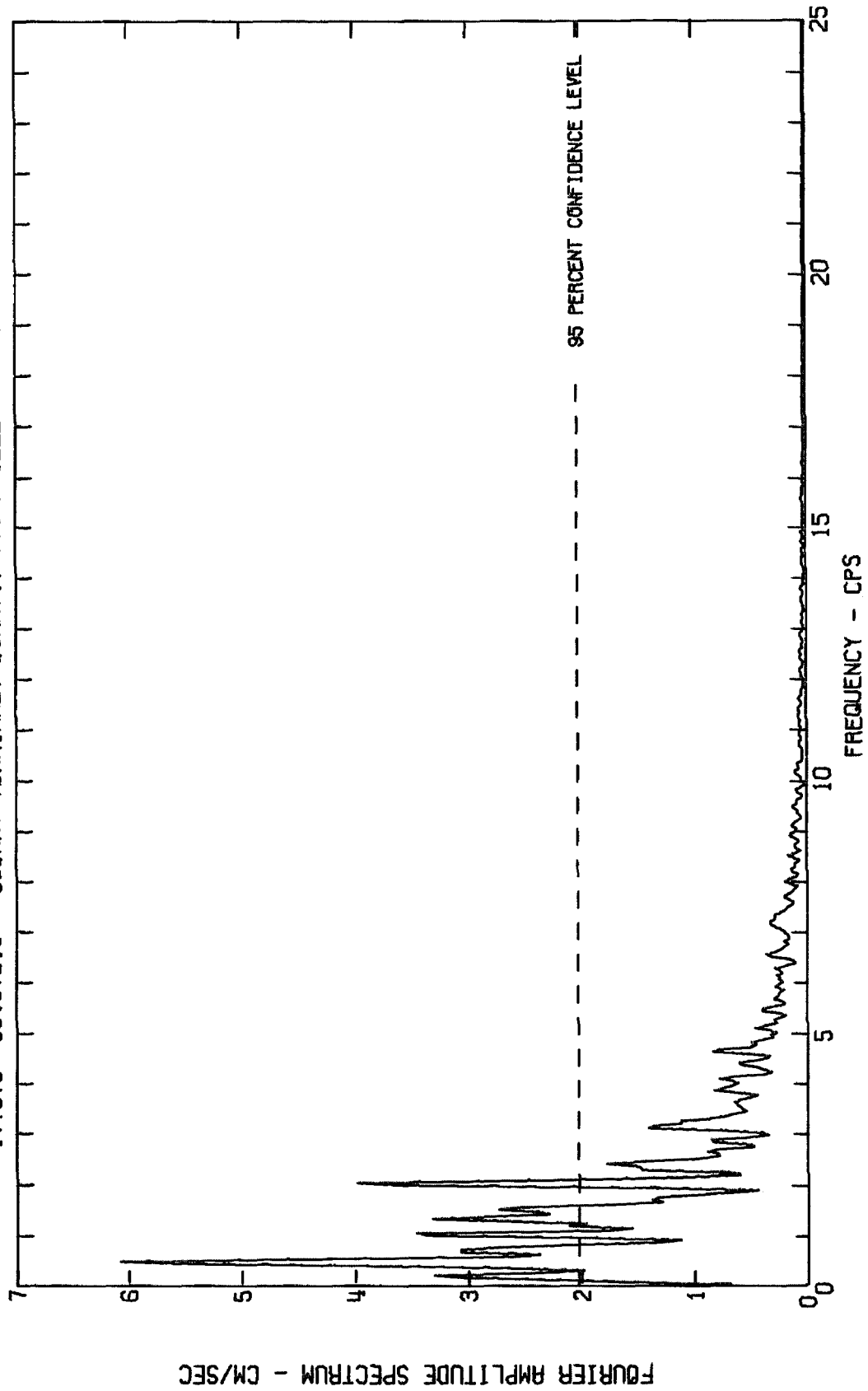
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
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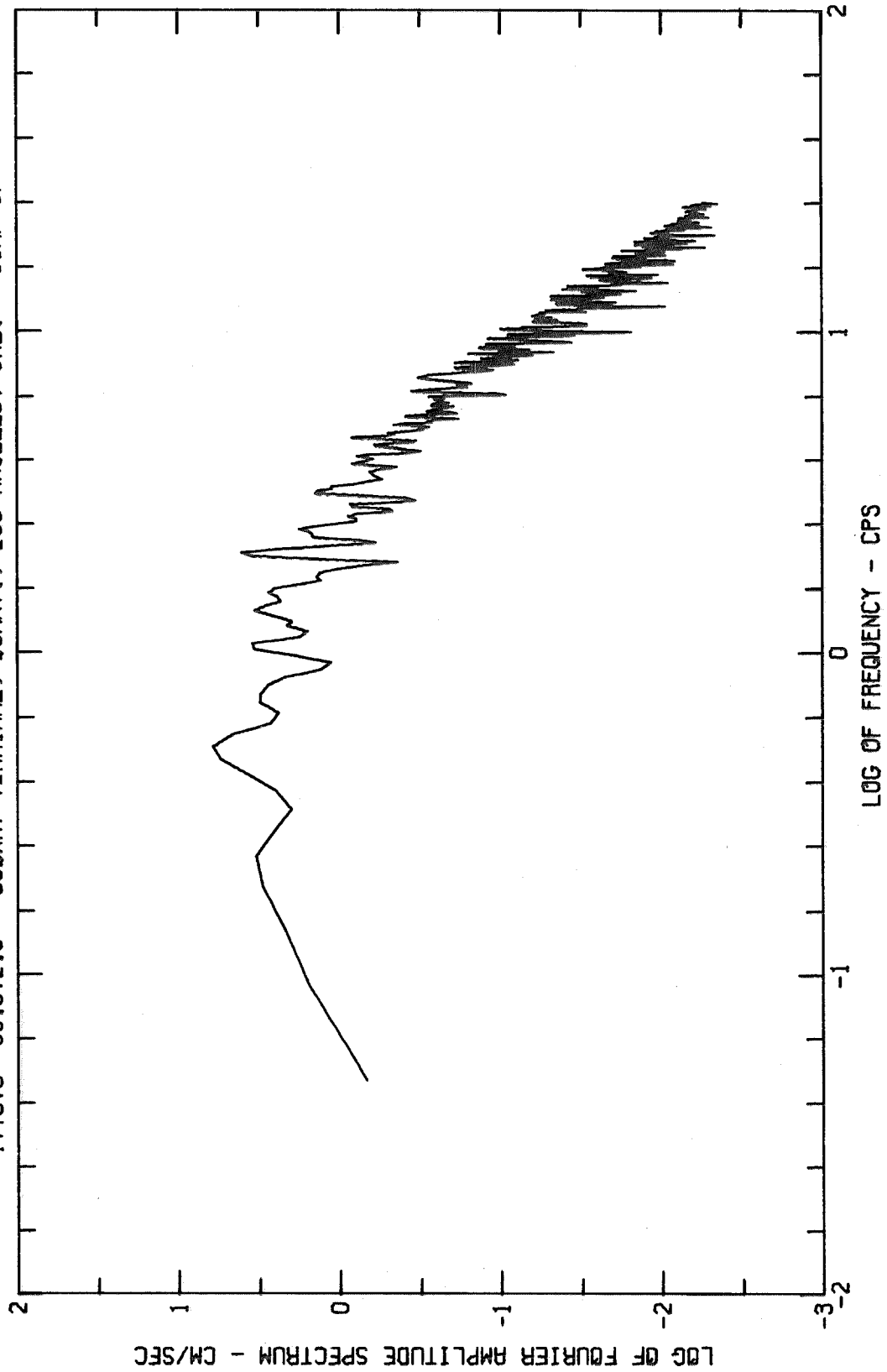
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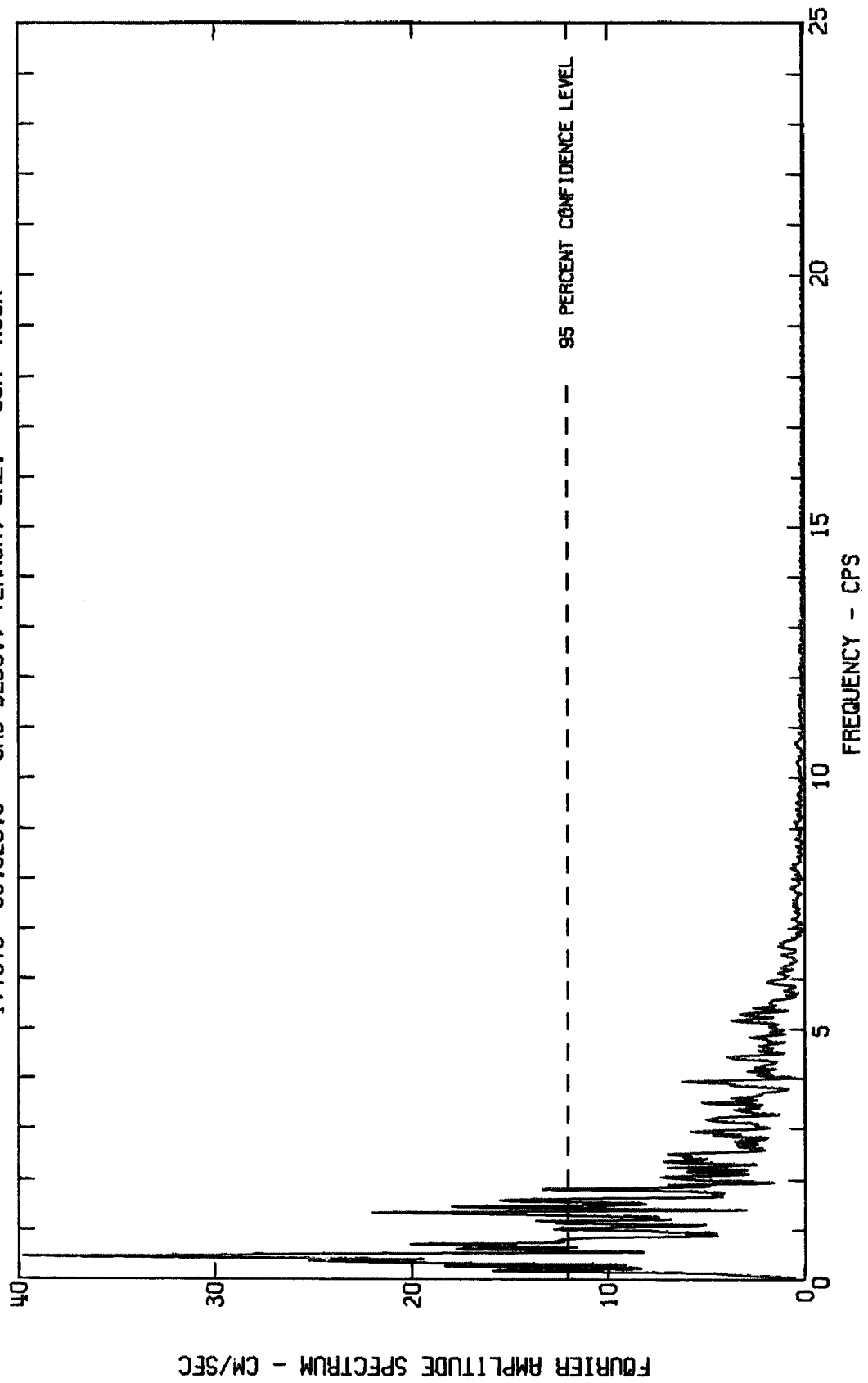
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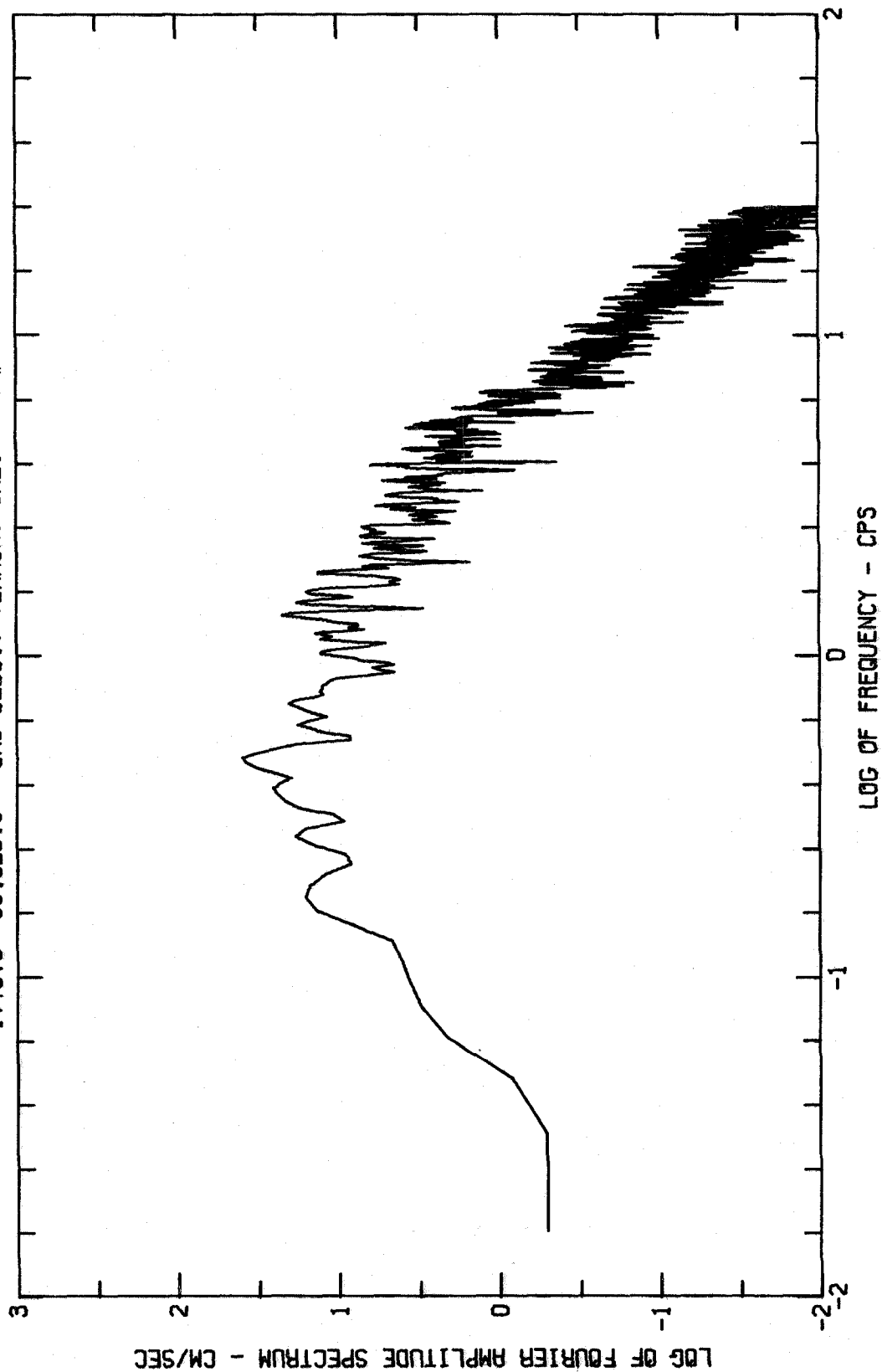
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
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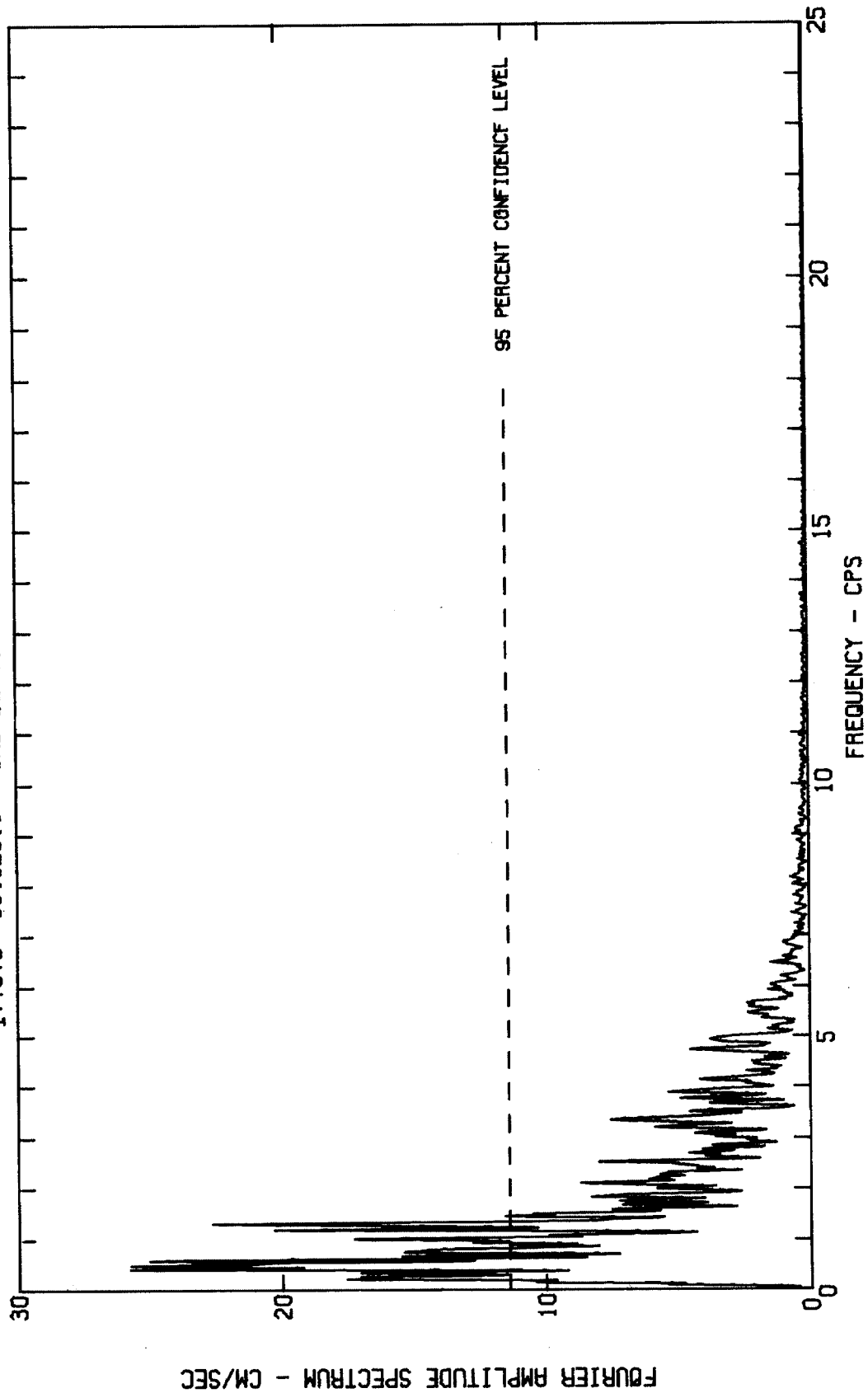
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORREGO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
IVY379 68.026.0 CMD BLDG., VERNON, CAL. COMP N83W



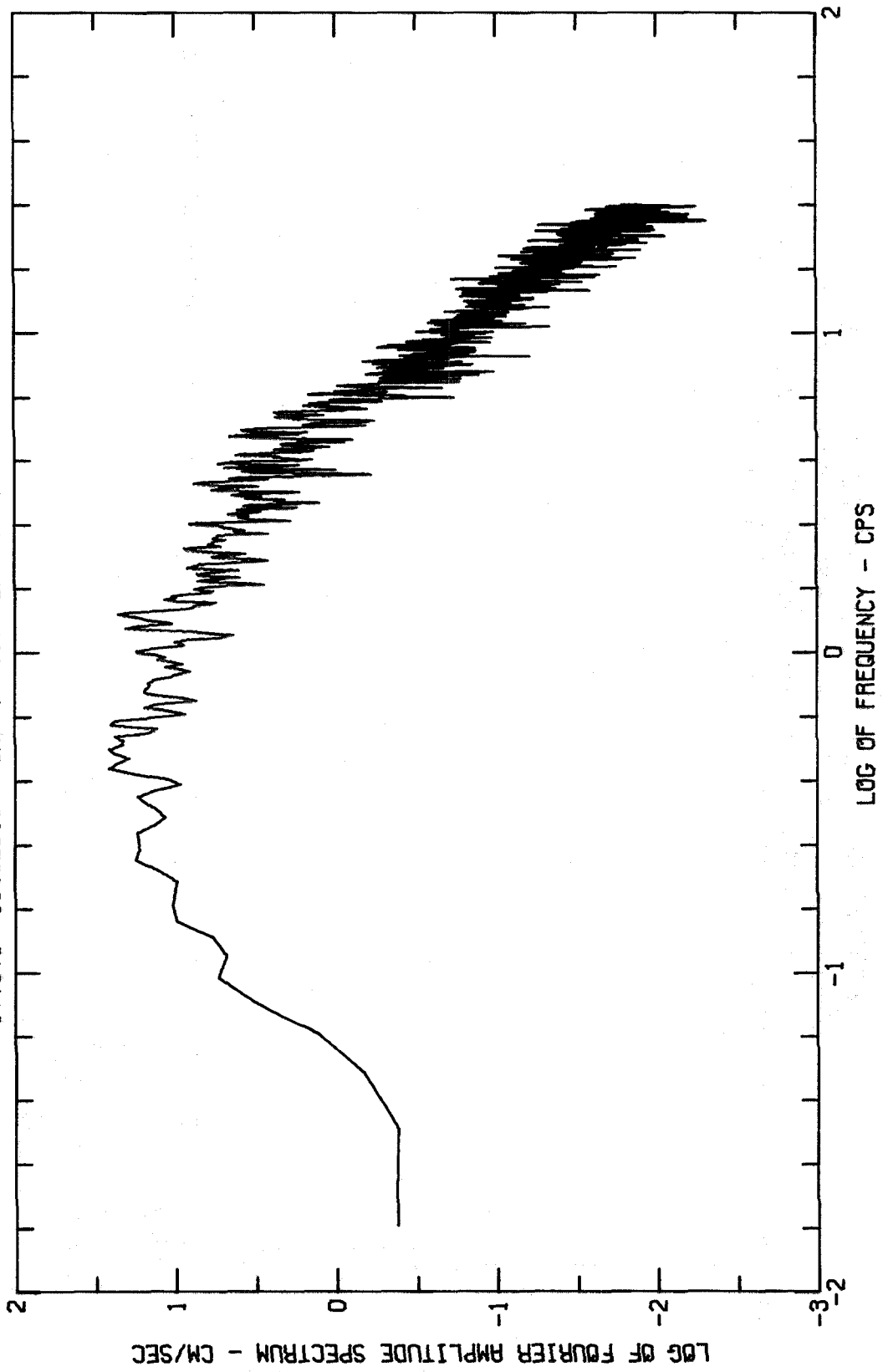
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BORREGO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1630 PST
IVY379 68.026.0 CMD BLDG., VERNON, CAL. COMP N83W



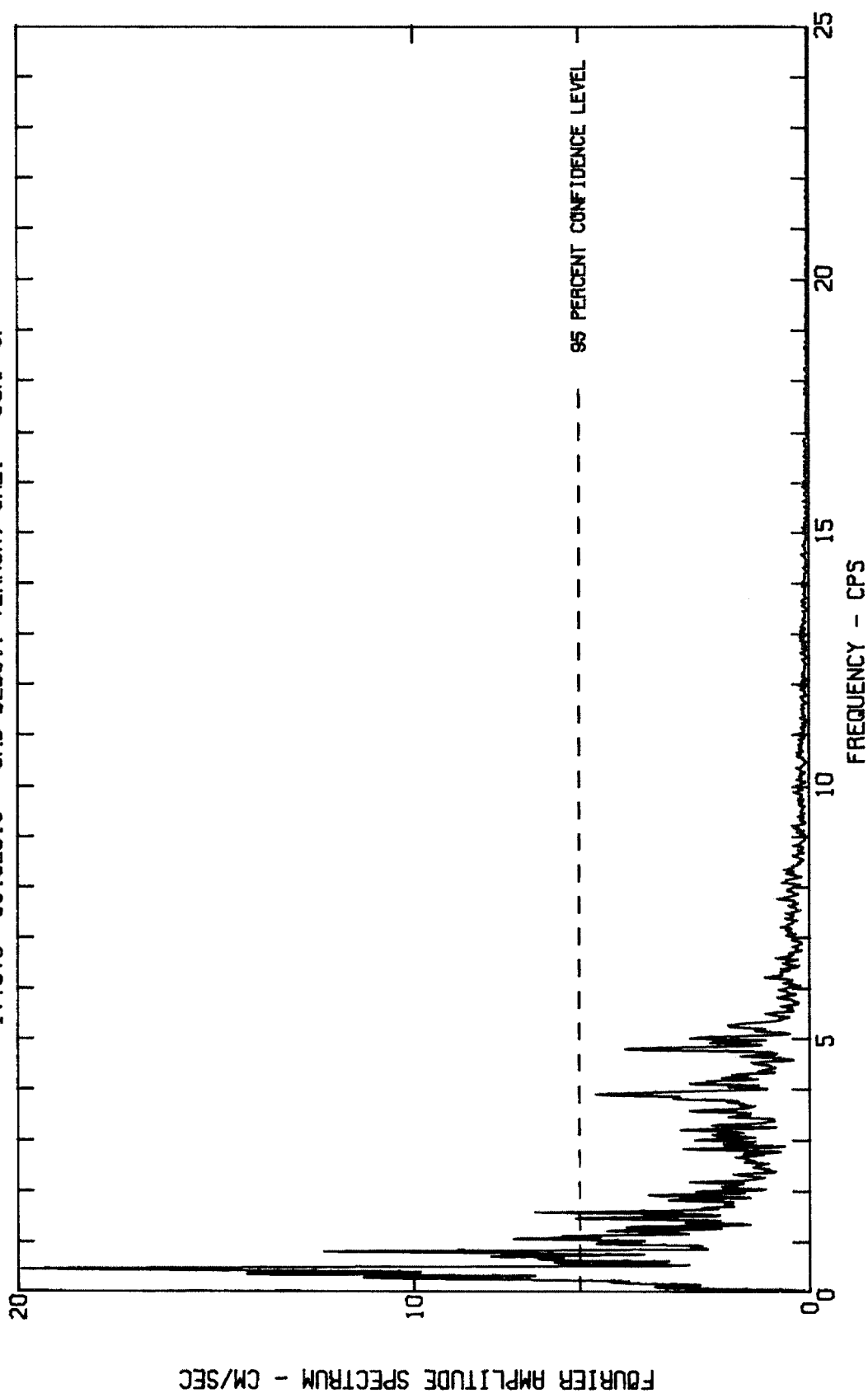
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORRERO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
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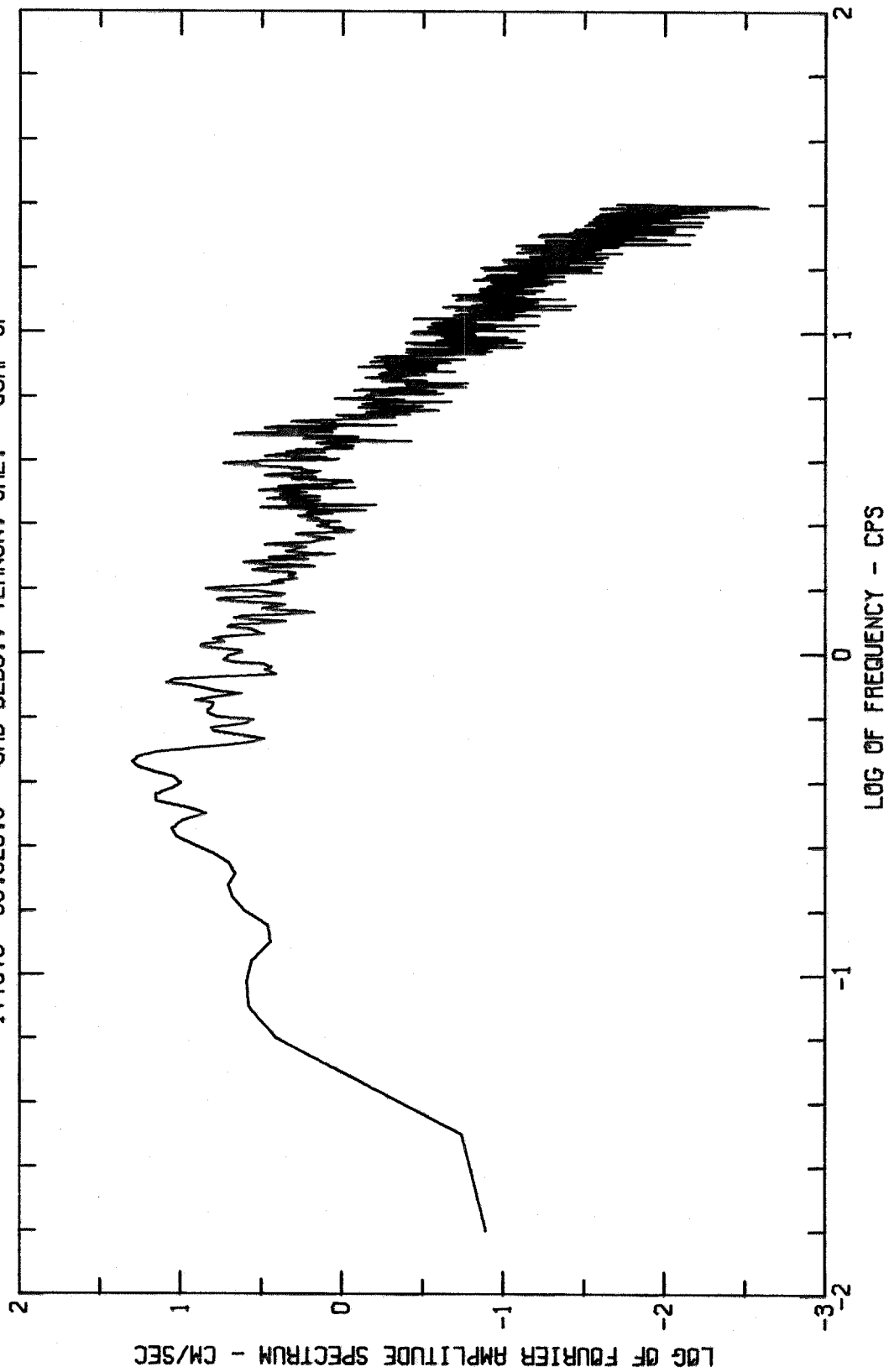
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IVY379 68.026.0 CMD BLDG., VERNON, CAL. COMP S07W

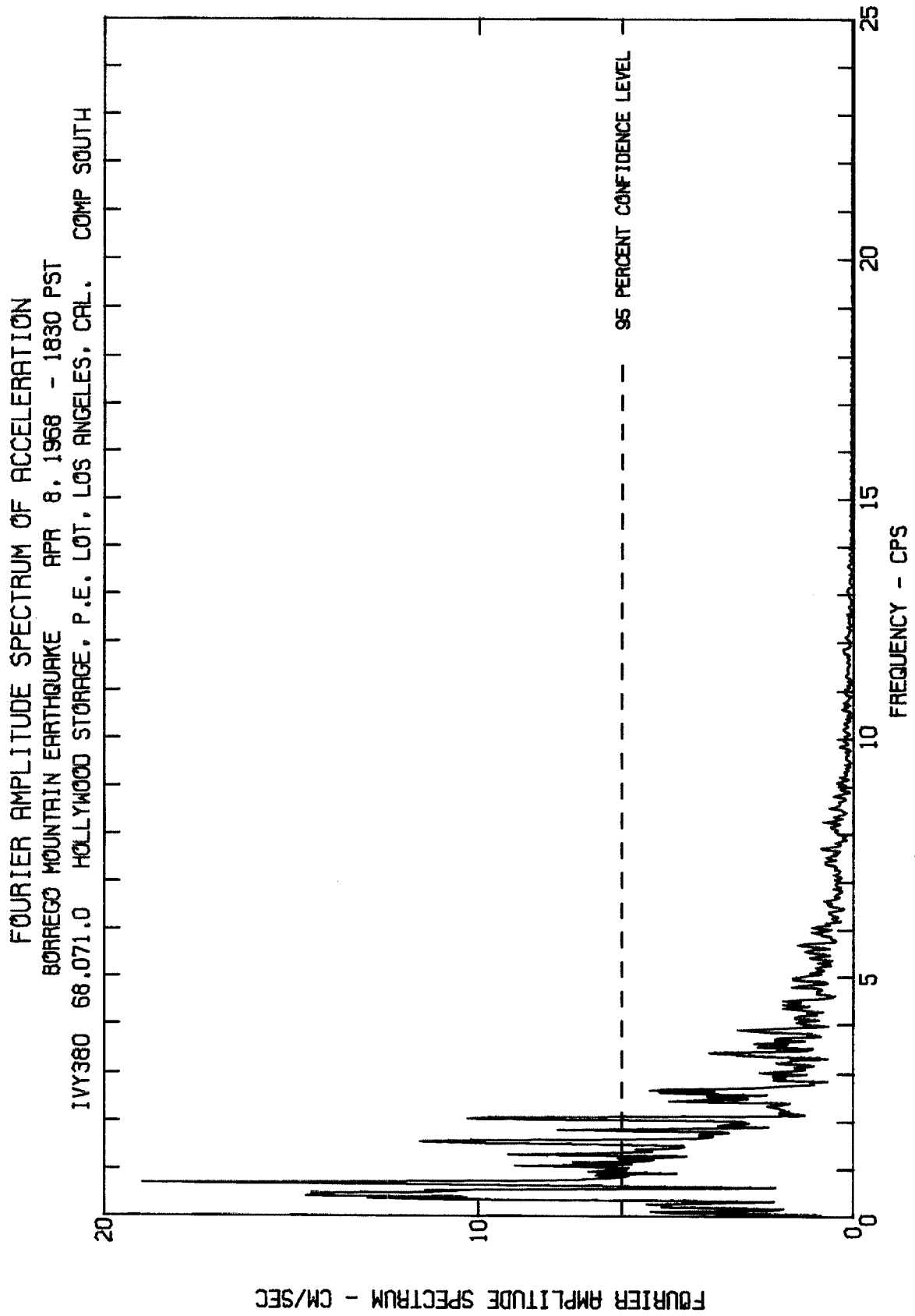


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORREGO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
IVY379 68.026.0 CMD BLDG., VERNON, CAL. COMP UP

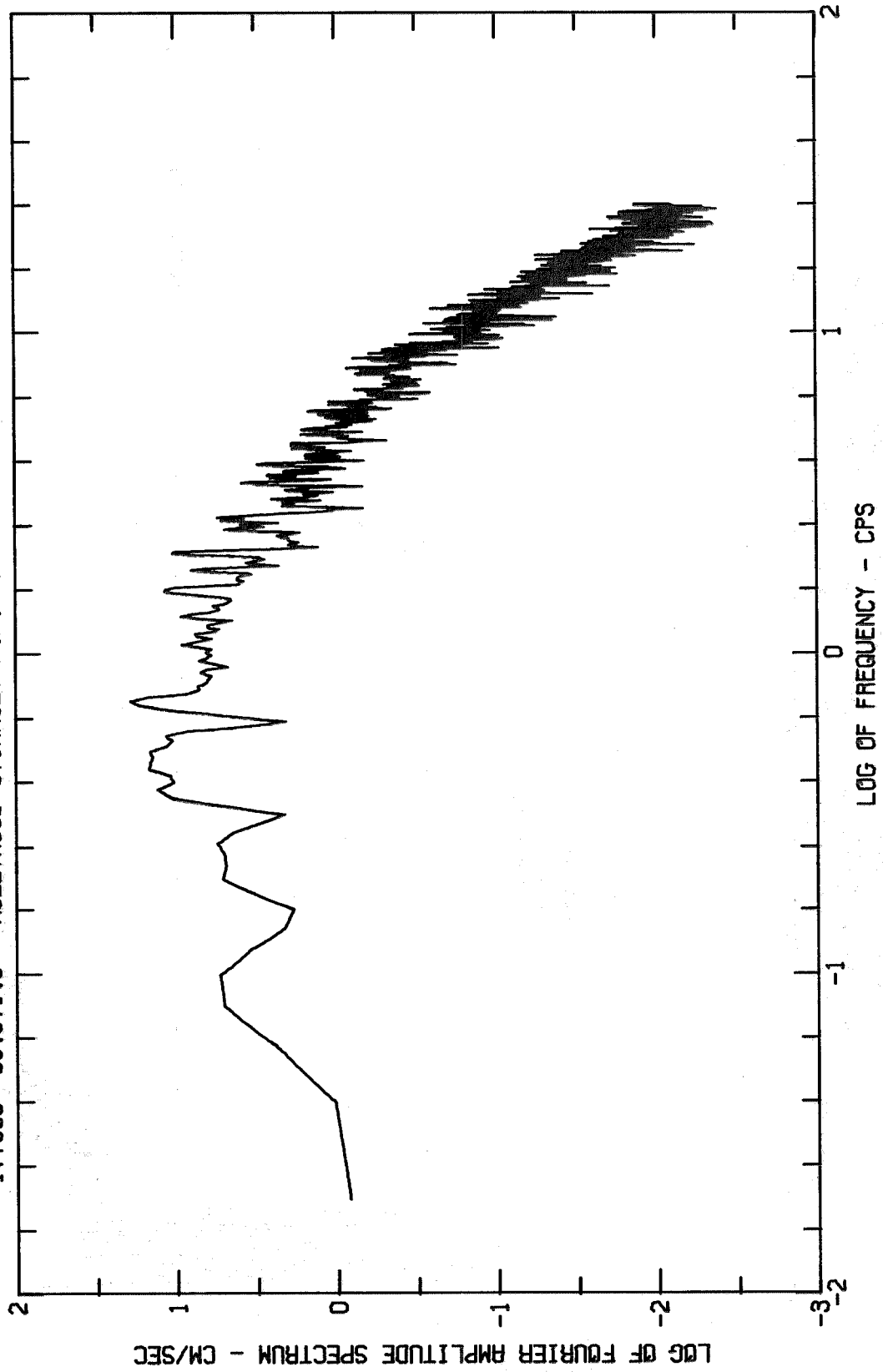


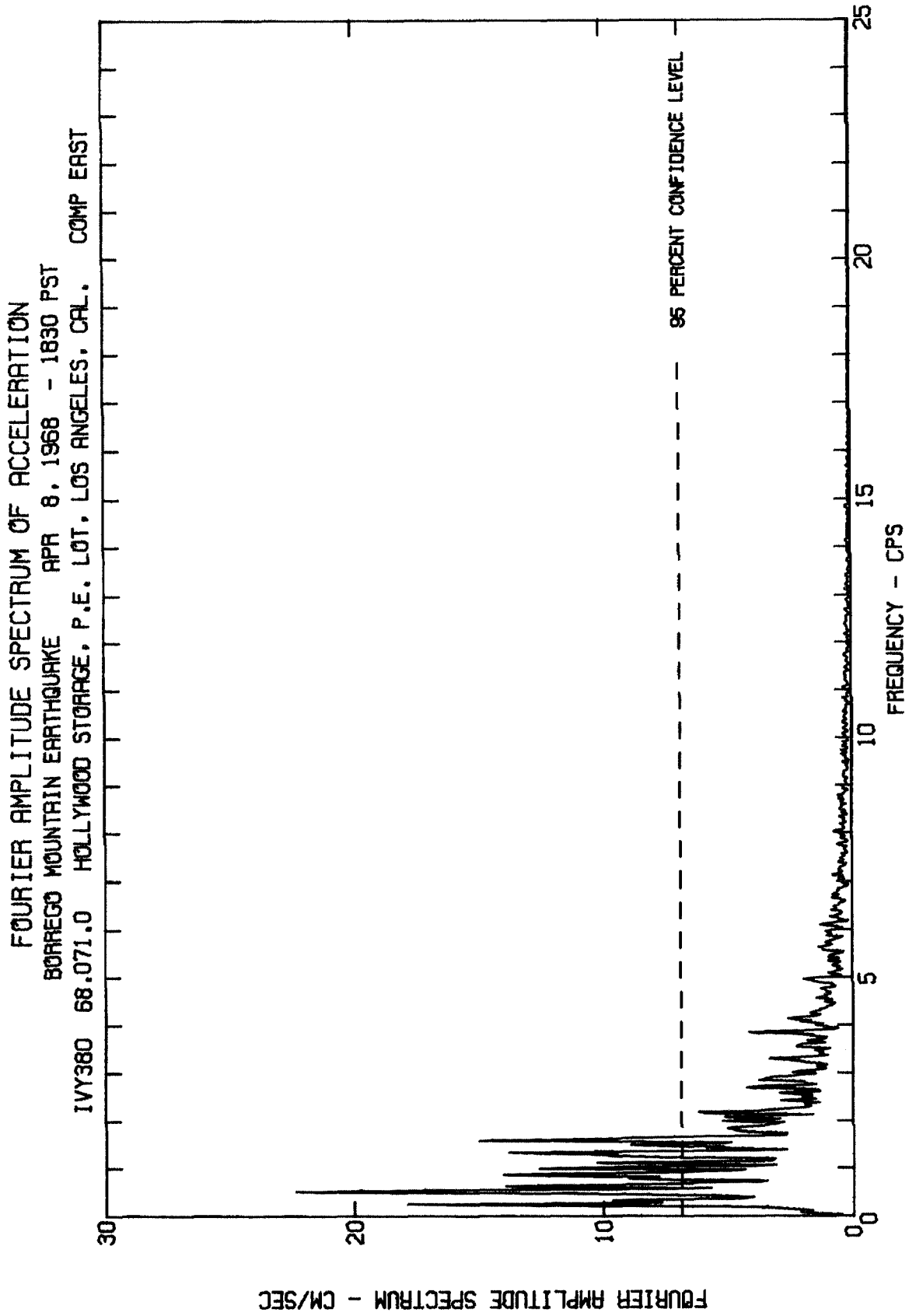
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORREGO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
1VY379 68.026.0 CMD BLDG., VERNON, CAL. COMP UP



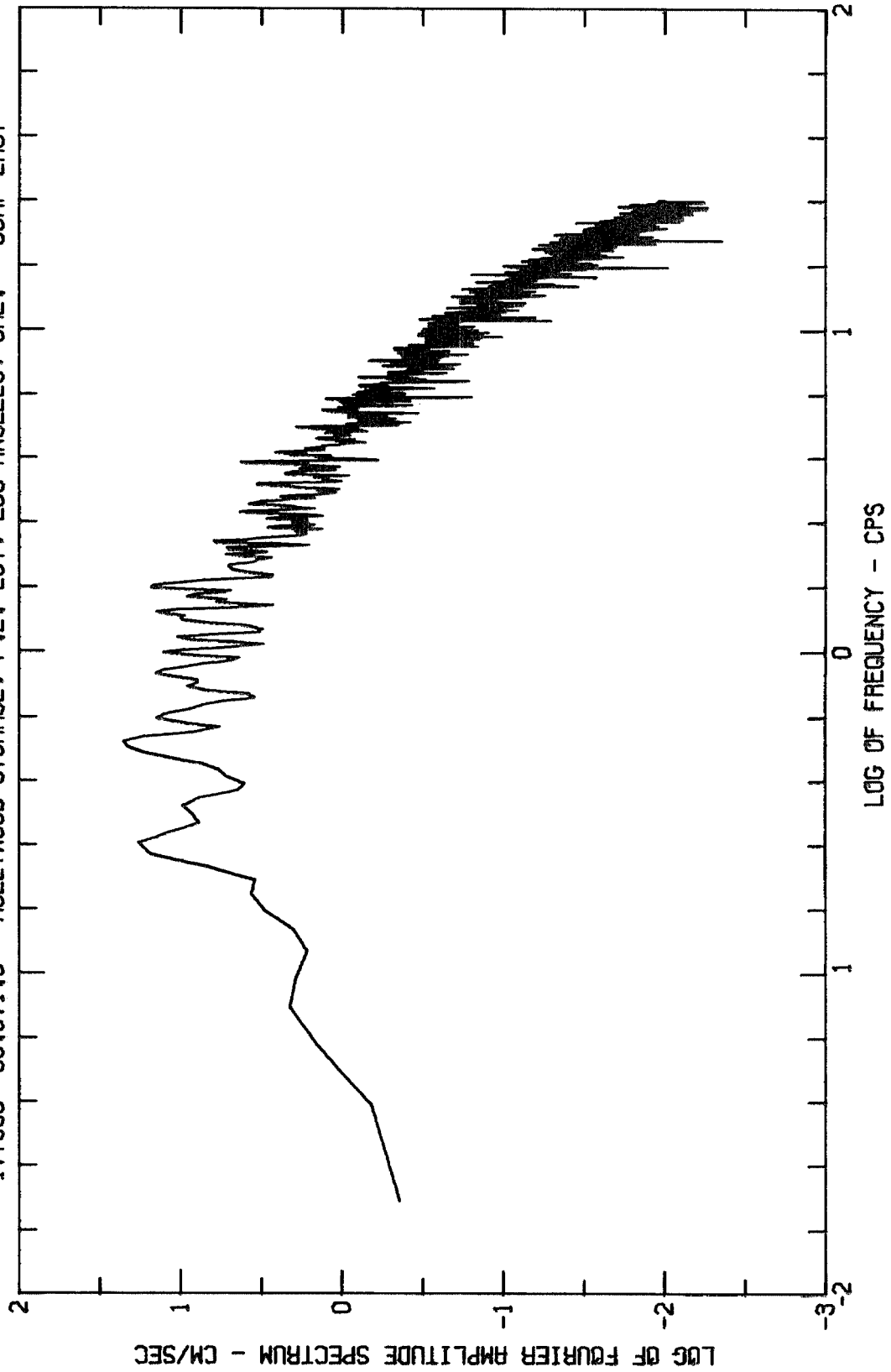


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORRERO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
1VY380 68.071.0 HOLLYWOOD STORAGE, P.E. LOT, LOS ANGELES, CAL. COMP SOUTH

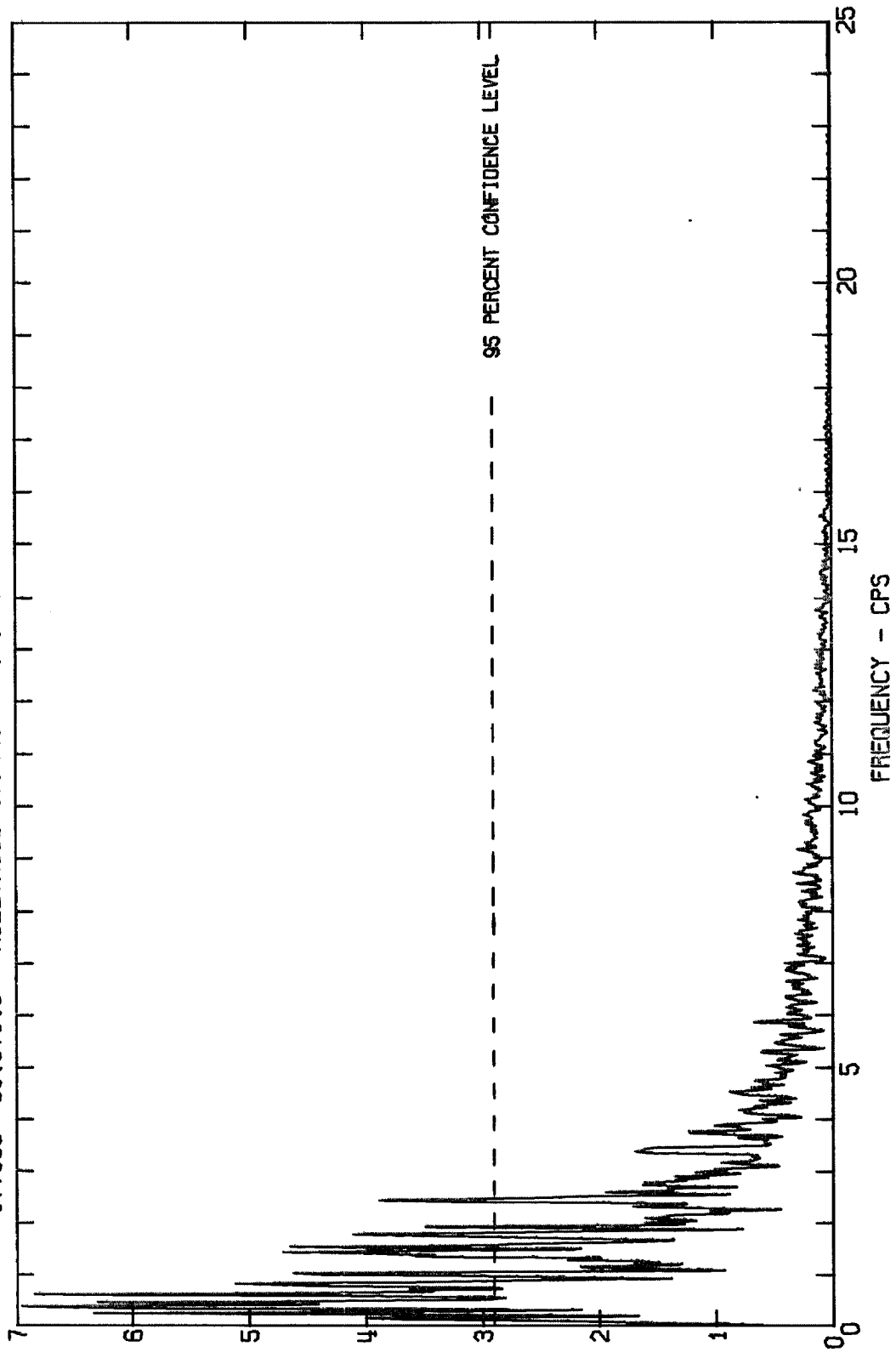




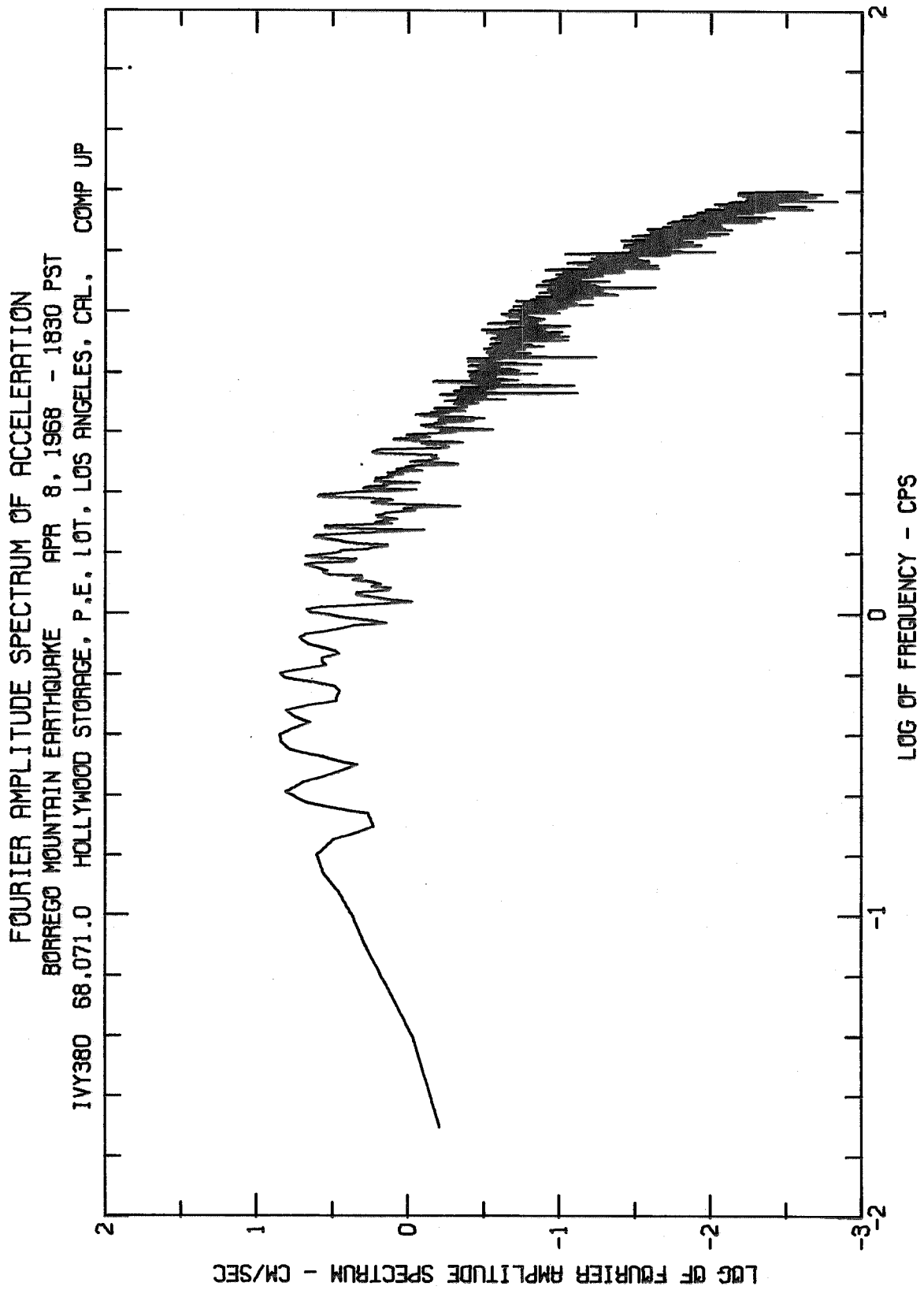
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORRERO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
1VY380 68.071.0 HOLLYWOOD STORAGE, P.E. LOT, LOS ANGELES, CAL. COMP EAST

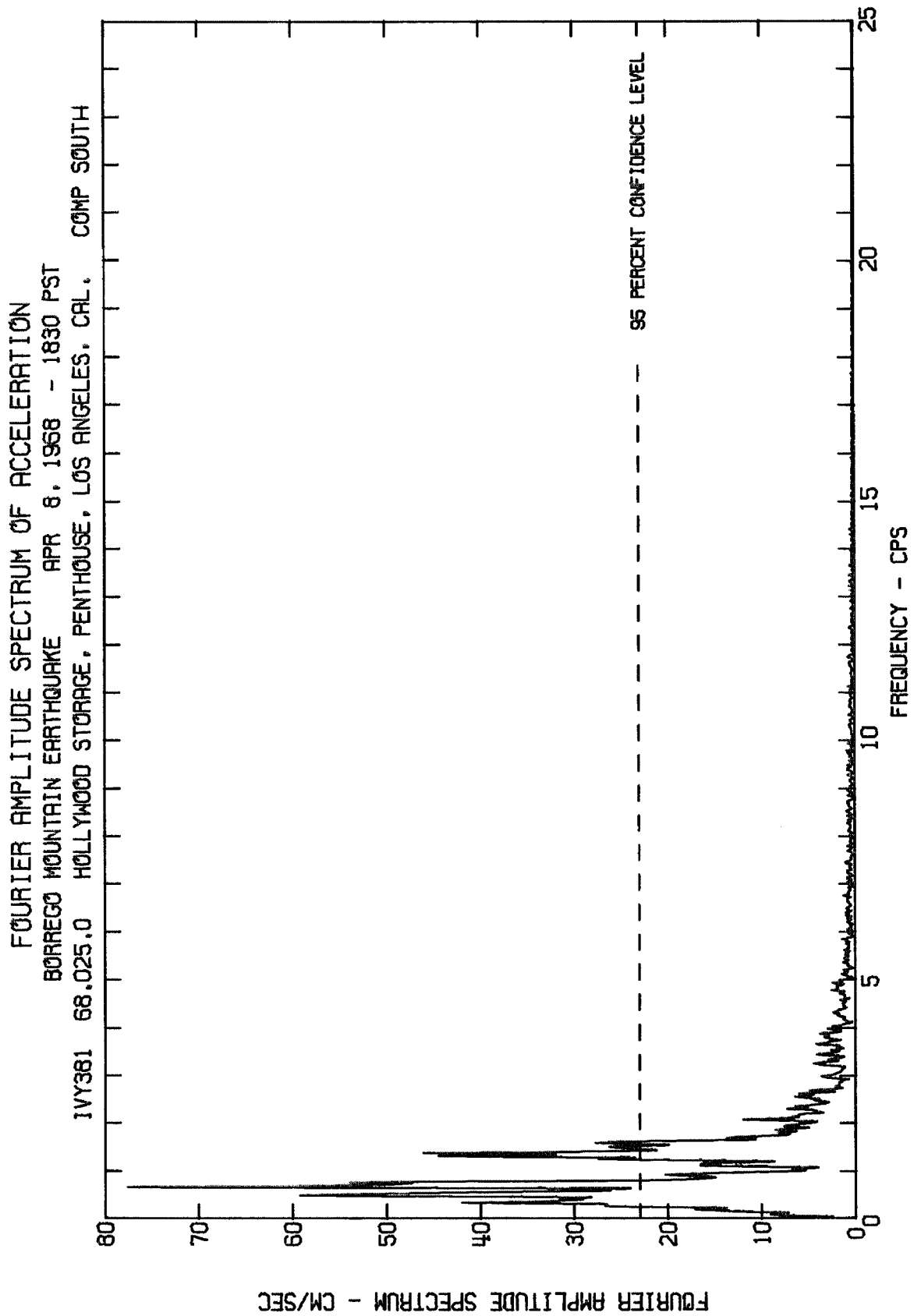


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORREGO MOUNTAIN EARTHQUAKE APR 8, 1958 - 1830 PST
IVY380 68.071.0 HOLLYWOOD STORAGE, P.E. LOT, LOS ANGELES, CAL. COMP UP

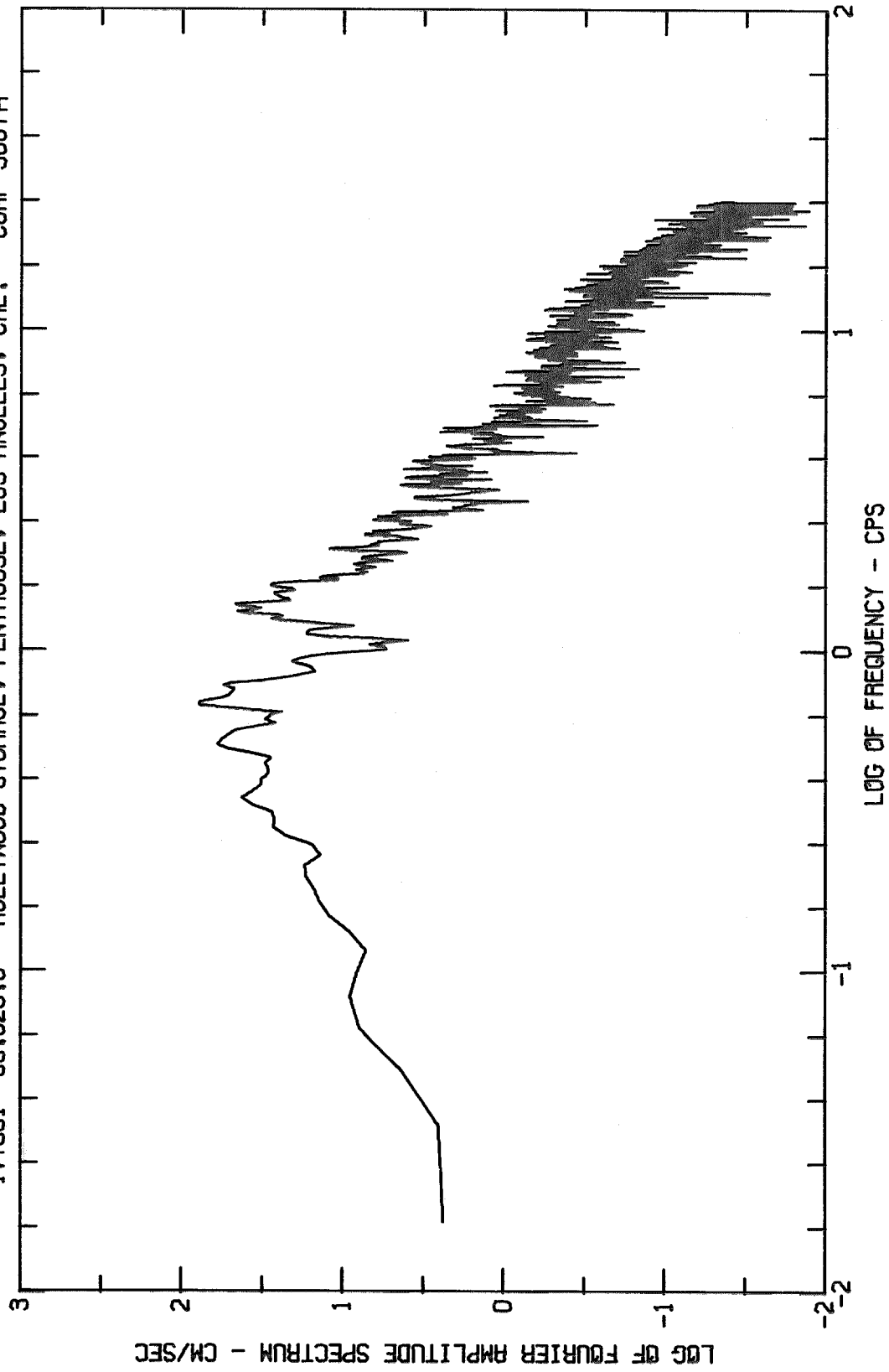


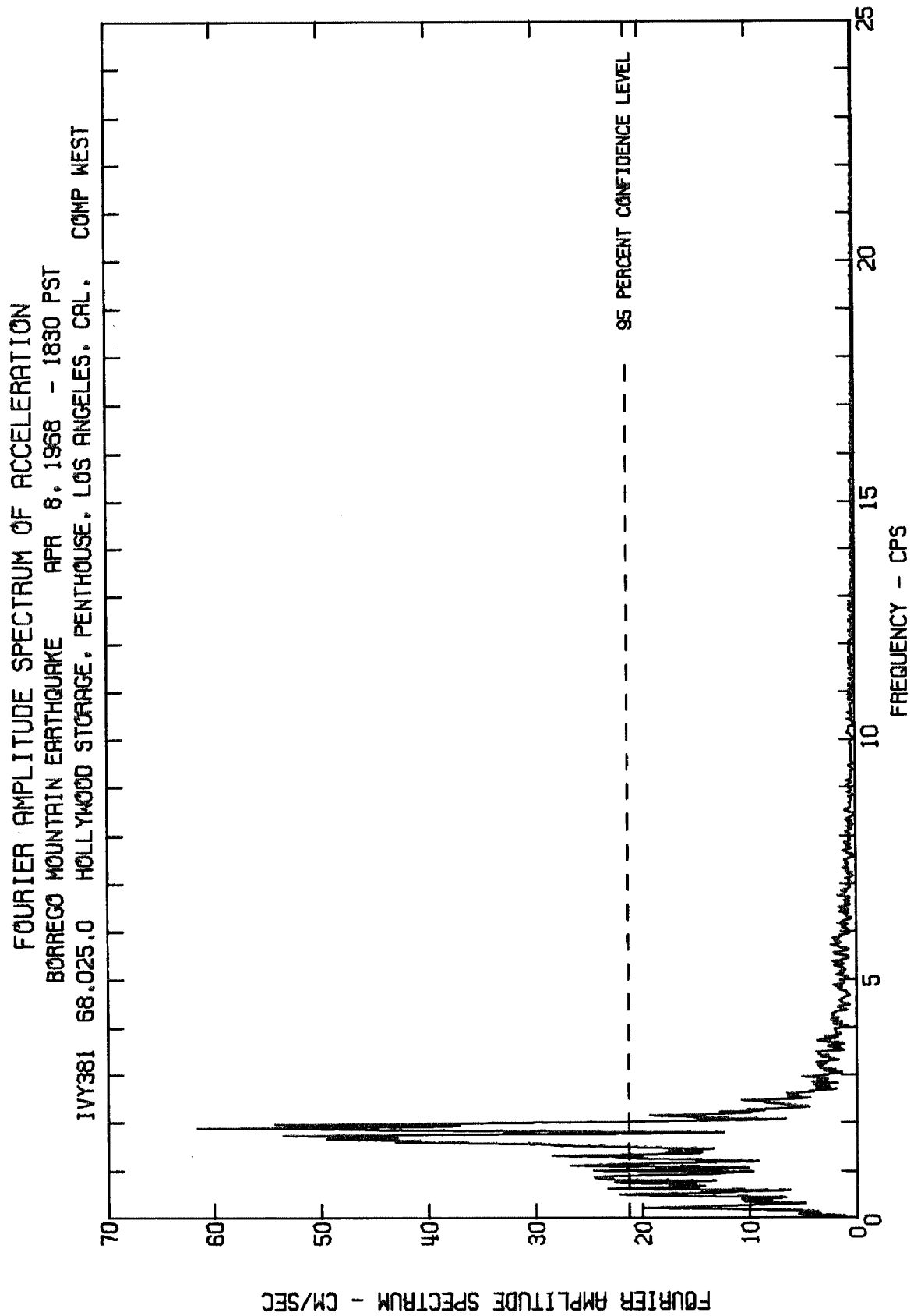
FOURIER AMPLITUDE SPECTRUM - CM/SEC



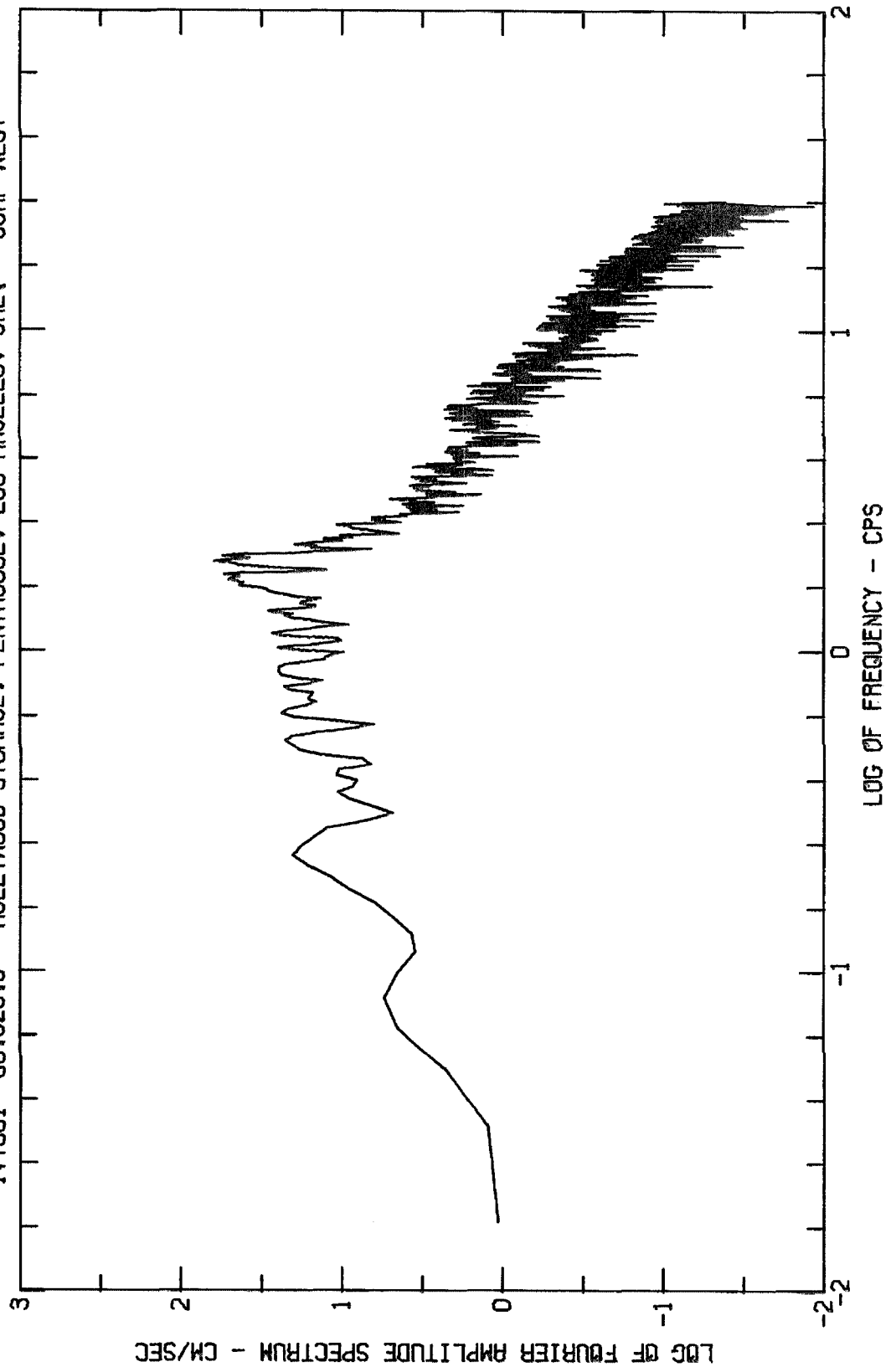


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORRERO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
1VY381 68.025.0 HOLLYWOOD STORAGE, PENTHOUSE, LOS ANGELES, CAL. COMP SOUTH

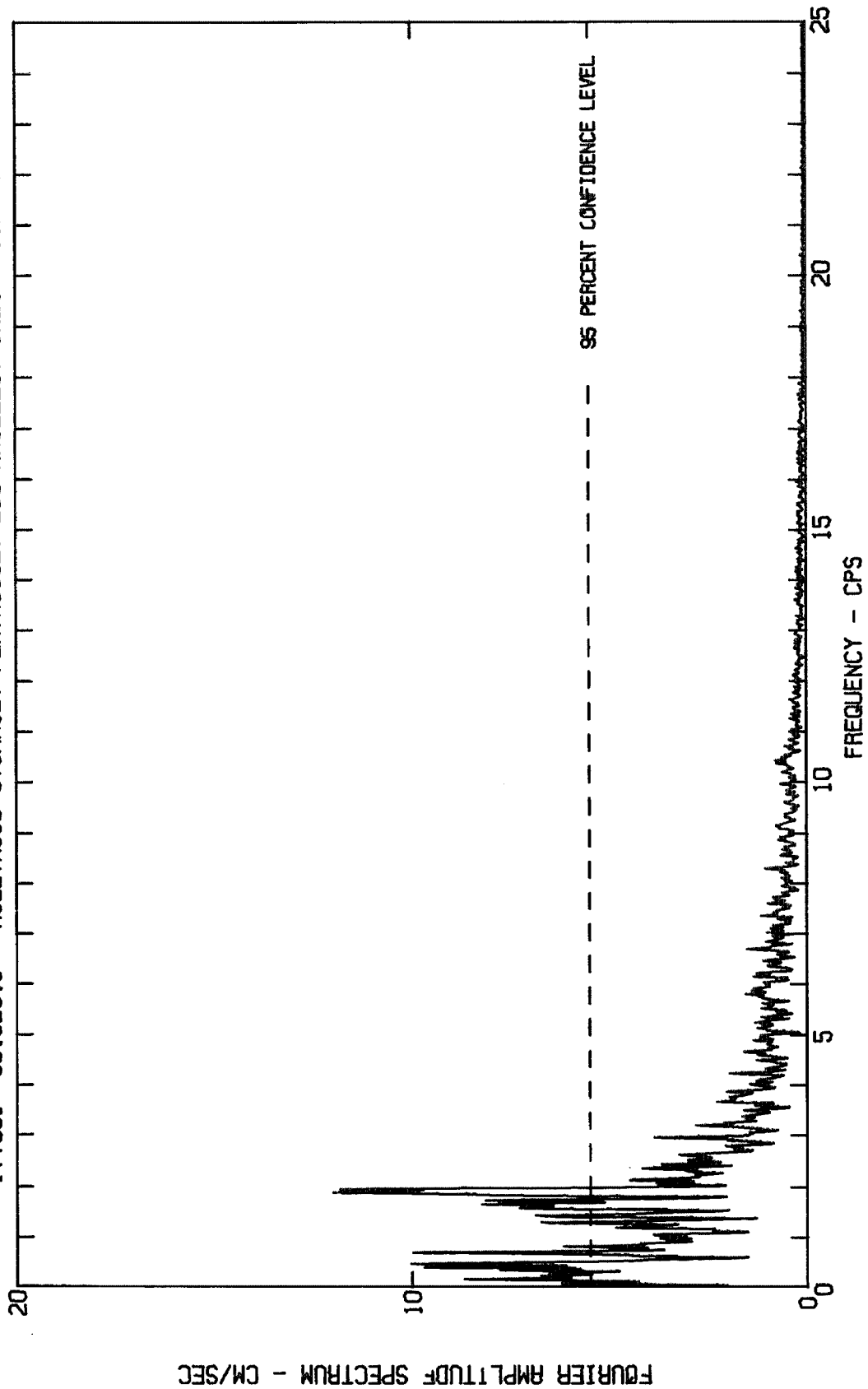




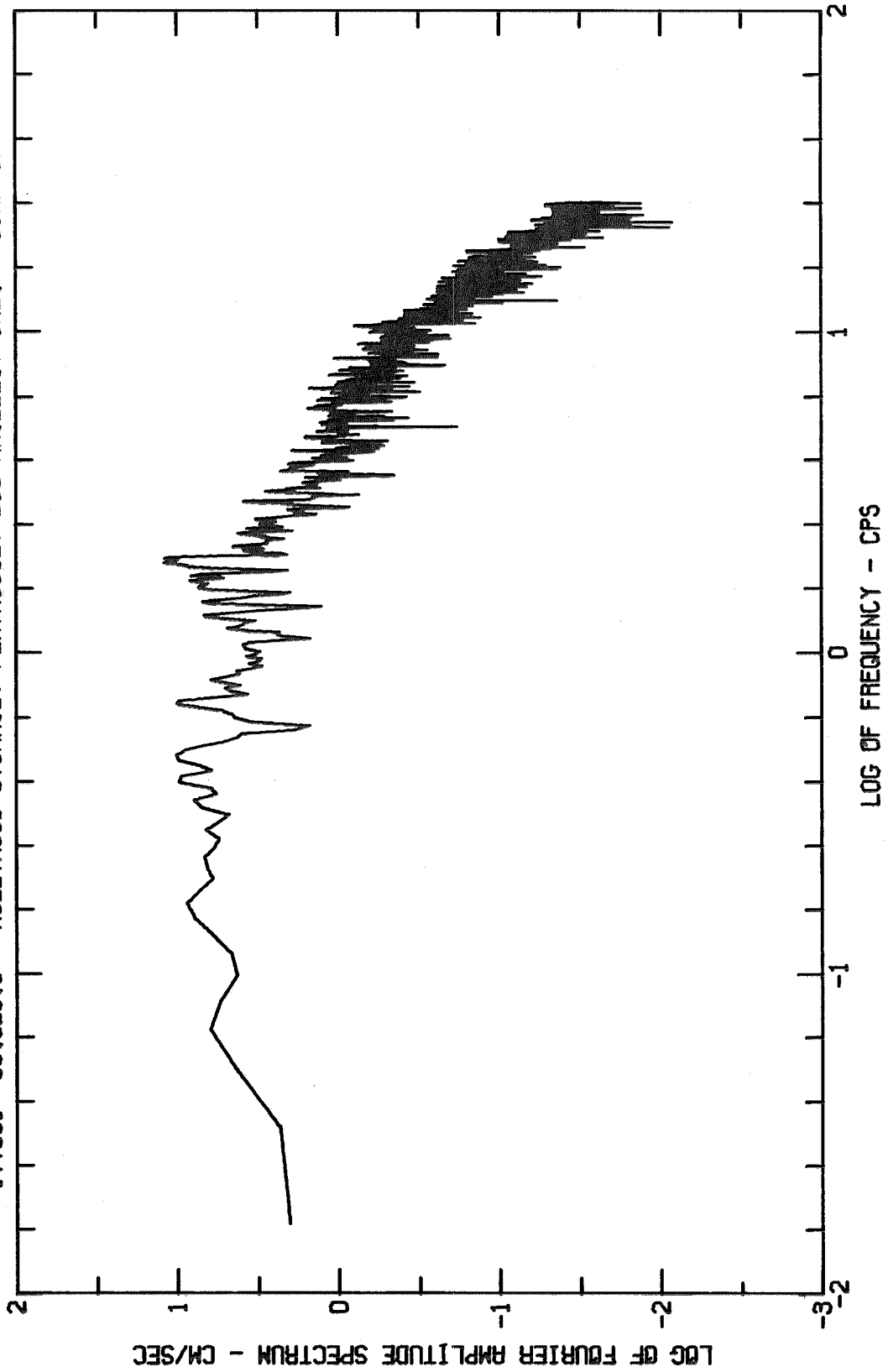
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BORRERO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
IVY381 68.025.0 HOLLYWOOD STORAGE, PENTHOUSE, LOS ANGELES, CAL. COMP WEST



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BORREGO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
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FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
BORREGO MOUNTAIN EARTHQUAKE APR 8, 1968 - 1830 PST
1VY381 68.025.0 HOLLYWOOD STORAGE, PENTHOUSE, LOS ANGELES, CAL. COMP UP



California Institute of Technology
Earthquake Engineering Research Laboratory

The following reports of the Earthquake Engineering Research Laboratory from 1970 on can be obtained from the National Technical Information Service, Springfield, Virginia 22121:

Strong-Motion Earthquake Accelerograms
Digitized and Plotted Data
Volume I

<u>Part</u>	<u>Report No.</u>	<u>NTIS Accession No.</u>
A	EERL 70-20	PB-287 847
B	EERL 70-21	PB-196 823
C	EERL 71-20	PB-204 364
D	EERL 71-21	PB-208 529
E	EERL 71-22	PB-209 749
F	EERL 71-23	PB-210 619
G	EERL 72-20	PB-211 357
H	EERL 72-21	PB-211 781
I	EERL 72-22	PB-213 422
J	EERL 72-23	PB-213 423
K	EERL 72-24	PB-213 424
L	EERL 72-25	PB-215 639
M	EERL 72-26	PB-220 554
N	EERL 72-27	PB-223 023
O	EERL 73-20	PB-222 417
P	EERL 73-21	PB-227 481/AS
Q	EERL 73-22	PB-232 315/AS
R	EERL 73-23	PB-239 585/AS

Strong-Motion Earthquake Accelerograms
Digitized and Plotted Data

Corrected Accelerograms and Integrated
Ground Velocity and Displacement Curves

Volume II

<u>Part</u>	<u>Report No.</u>	<u>NTIS Accession No.</u>
A	EERL 71-50	PB-208 283
B	EERL 72-50	PB-220 161
C	EERL 72-51	PB-220 162
D	EERL 72-52	PB-220 836
E	EERL 73-50	PB-223 024
F	EERL 73-51	PB-224 977/9AS
G	EERL 73-52	PB-229 239/AS
H	EERL 74-50	PB-231 225/AS
I	EERL 74-51	PB-232 316/AS
J, K	EERL 74-52	PB-233 257/AS
L, M	EERL 74-53	PB-237 174/AS
N	EERL 74-54	PB-236 399/AS
O, P	EERL 74-55	PB-239 586/AS
Q, R	EERL 74-56	PB-239 587/AS

Analyses of Strong-Motion Earthquake Accelerograms
Response Spectra

Volume III

<u>Part</u>	<u>Report No.</u>	<u>NTIS Accession No.</u>
A	EERL 72-80	PB-212 602
B	EERL 73-80	PB-221 256
C	EERL 73-81	PB-223 025
D	EERL 73-82	PB-227 469/AS
E	EERL 73-83	PB-227 470/AS
F	EERL 73-84	PB-227 471/AS
G	EERL 73-85	PB-231 223/AS
H	EERL 74-80	PB-231 319/AS
I	EERL 74-81	PB-232 326/AS
J, K, L	EERL 74-82	PB-236 110/AS
M, N	EERL 74-83	PB-236 400/AS
O, P	EERL 74-84	PB-238 102/AS

Analyses of Strong-Motion Earthquake Accelerograms
Fourier Amplitude Spectra

Volume IV

<u>Part</u>	<u>Report No.</u>	<u>NTIS Accession No.</u>
A	EERL 72-100	PB-212 603
B	EERL 73-100	PB-220 837
C	EERL 73-101	PB-222 514
D	EERL 73-102	PB-222 969/AS
E	EERL 73-103	PB-229 240/AS
F	EERL 73-104	PB-229 241/AS
G	EERL 73-105	PB-231 224/AS
H	EERL 74-100	PB-232 327/AS
I	EERL 74-101	PB-232 328/AS
J, K, L, M	EERL 74-102	PB-236 111/AS
N, O, P	EERL 74-103	PB-238 447/AS

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P. C. Jennings, et al, Forced Vibration of a 22-Story Steel Frame Building (EERL 71-01; PB-205 161)

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Randolph A. Adu, Response and Failure of Structures under Stationary Random Excitation (EERL 71-02; PB-205 304)

Jacobo Bielak, Earthquake Response of Building-Foundation Systems (EERL 71-04; PB-205 305)

M. D. Trifunac, F. E. Udwadia, A. G. Brady, High Frequency Errors and Instrument Corrections of Strong-Motion Accelerograms (EERL 71-05; PB-205 369)

Knut Sverre Skattum, Dynamic Analysis of Coupled Shear Walls and Sandwich Beams (EERL 71-06; PB-205 267)

John Brent Hoerner, Modal Coupling and Earthquake Response of Tall Buildings (EERL 71-07; PB-207 635)

P. C. Jennings and J. Bielak, Dynamics of Building-Soil Interaction (EERL 72-01; PB-209 666)

F. E. Udwadia, Investigation of Earthquake and Microtremor Ground Motions (EERL 72-02; PB-212 853)

Albert W. Whitney, On Insurance Settlements Incident to the 1906 San Francisco Fire (DRC 72-01; PB-213 256)

J. H. Wood, Analysis of the Earthquake Response of a Nine-Story Steel Frame Building during the San Fernando Earthquake (EERL 72-04; PB-215 823)

F. E. Udwadia and M. D. Trifunac, The Fourier Transform, Response Spectra and their Relationship through the Statistics of Oscillator Response (EERL 73-01; PB-220 458)

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M. D. Trifunac and V. Lee, Routine Computer Processing of Strong-Motion Accelerograms (EERL 73-03; PB-226 047/AS)

D. K. Jephcott and D. E. Hudson, The Performance of Public School
Plants During the San Fernando Earthquake (EERL 74-01;
PB-240 000/AS)